

Patent Assignment Abstract of Title

Total Assignments: 7**Application #:** 09909062**Filing Dt:** 07/19/2001**Patent #:** NONE**Issue Dt:****PCT #:** NONE**Publication #:** 20030036501**Pub Dt:** 02/20/2003

Inventors: Anil K. Saksena, Viyyoor Moopil Girijavallabhan, Raymond G. Lovey, Edwin E. Jao, Frank Bennett, Jinping L. McCormick, Haiyan Wang, Russell E. Pike, Stephane L. Bogen, Yi-Tsung Liu, Ashok Arasappan, Tejal Parekh, Patrick A. Pinto, F. George Njoroge, Ashit K. Ganguly, Terence K. Brunck, Scott Jeffrey Kemp, Odile Esther Levy, Marguerita Lim-Wilby

Title: Novel peptides as NS3-serine protease inhibitors of hepatitis C virus

Assignment: 1

Reel/Frame: 012466/0764 **Received:** 01/18/2002 **Recorded:** 01/09/2002 **Mailed:** 03/12/2002 **Pages:** 10

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors: SAKSENA, ANIL K.**Exec Dt:** 05/23/2001GIRIJAVALIABHAN, VIYYOOR M.**Exec Dt:** 05/23/2001LOVEY, RAYMOND G.**Exec Dt:** 05/23/2001JAO, EDWIN**Exec Dt:** 05/23/2001BENNETT, FRANK**Exec Dt:** 05/23/2001MCCORMICK, JINPING L.**Exec Dt:** 06/08/2001PIKE, RUSSELL E.**Exec Dt:** 05/30/2001BOGEN, STEPHANE L.**Exec Dt:** 05/23/2001LIU, YI-TSUNG**Exec Dt:** 05/30/2001ARASAPPAN, ASHOK**Exec Dt:** 05/23/2001PINTO, PATRICK A.**Exec Dt:** 05/24/2001NJOROGE, F. GEORGE**Exec Dt:** 05/30/2001GANGULY, ASHIT**Exec Dt:** 05/22/2001**Assignee:** SCHERING CORPORATION

2000 GALLOPING HILL ROAD

KENILWORTH, NEW JERSEY 07033

Correspondent: SCHERING-PLOUGH CORPORATION

PALAIYUR KALYANARAMAN

PATENT DEPT. K-6-1, 1990

2000 GALLOPING HILL ROAD

KENILWORTH, NJ 07033-0530

Assignment: 2

Reel/Frame: 012466/0706 **Received:** 01/18/2002 **Recorded:** 01/09/2002 **Mailed:** 03/12/2002 **Pages:** 6

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: PAREKH, TEJAL**Exec Dt:** 07/12/2001**Assignee:** SCHERING CORPORATION

2000 GALLOPING HILL ROAD

KENILWORTH, NEW JERSEY 07033

Correspondent: SCHERING-PLOUGH CORPORATION

PALAIYUR KALYANARAMAN

PATENT DEPT. K-6-1, 1990

2000 GALLOPING HILL ROAD

KENILWORTH, NEW JERSEY 07033-0530

Assignment: 3

Reel/Frame: 012464/0238 **Received:** 01/17/2002 **Recorded:** 01/09/2002 **Mailed:** 03/11/2002 **Pages:** 6

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: WANG, HAIYAN

Exec Dt: 07/25/2001

Assignee: SCHERING CORPORATION

2000 GALLOPING HILL ROAD
KENILWORTH, NEW JERSEY 07033

Correspondent: SCHERING-PLOUGH CORPORATION

PALAIYUR KALYANARAMAN
PATENT DEPT. K-6-1, 1990
2000 GALLOPING HILL ROAD
KENILWORTH, NJ 07033-0530

Assignment: 4

Reel/Frame: 012464/0274 **Received:** 01/17/2002 **Recorded:** 01/09/2002 **Mailed:** 03/11/2002 **Pages:** 4

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: LIM-WILBY, MARGUERITA

Exec Dt: 08/01/2001

Assignee: CORVAS INTERNATIONAL, INC.

3030 SCIENCE PARK ROAD
SAN DIEGO, CALIFORNIA 92121

Correspondent: SCHERING-PLOUGH CORPORATION

PALAIYUR KALYANARAMAN
PATENT DEPT. K-6-1, 1990
2000 GALLOPING HILL ROAD
KENILWORTH, NJ 07033-0530

Assignment: 5

Reel/Frame: 012464/0253 **Received:** 01/17/2002 **Recorded:** 01/09/2002 **Mailed:** 03/11/2002 **Pages:** 4

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: BRUNCK, TERENCE K.

Exec Dt: 08/03/2001

Assignee: CORVAS INTERNATIONAL, INC.

3030 SCIENCE PARK ROAD
SAN DIEGO, CALIFORNIA 92121

Correspondent: SCHERING-PLOUGH CORPORATION

PALAIYUR KALYANARAMAN
PATENT DEPT. K-6-1, 1990
2000 GALLOPING HILL ROAD
KENILWORTH NJ 07033-0530

Assignment: 6

Reel/Frame: 012466/0718 **Received:** 01/18/2002 **Recorded:** 01/09/2002 **Mailed:** 03/12/2002 **Pages:** 4

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: LEVY, ODILE ESTHER

Exec Dt: 08/06/2001

Assignee: CORVAS INTERNATIONAL, INC.

3030 SCIENCE PARK ROAD
SAN DIEGO, CALIFORNIA 92121

Correspondent: SCHERING-PLOUGH CORPORATION

PALAIYUR KALYANARAMAN
2000 GALLOPING HILL ROAD
PATENT DEPT. K-6-1, 1990
KENILWORTH, NJ 07033-0530

Assignment: 7

Reel/Frame: 012464/0257 **Received:** 01/17/2002 **Recorded:** 01/09/2002 **Mailed:** 03/11/2002 **Pages:** 4

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignor: KEMP, SCOTT JEFFREY

Exec Dt: 08/10/2001

Assignee: CORVAS INTERNATIONAL, INC.
3030 SCIENCE PARK ROAD
SAN DIEGO, CALIFORNIA 92121

Correspondent: SCHERING-PLOUGH CORPORATION
PALAIYUR KALYANARAMAN
PATENT DEPT. K-6-1, 1990
2000 GALLOPING HILL ROAD
KENILWORTH, NJ 07033-0530

Search Results as of: 3/19/2003 5:49:36 A.M.

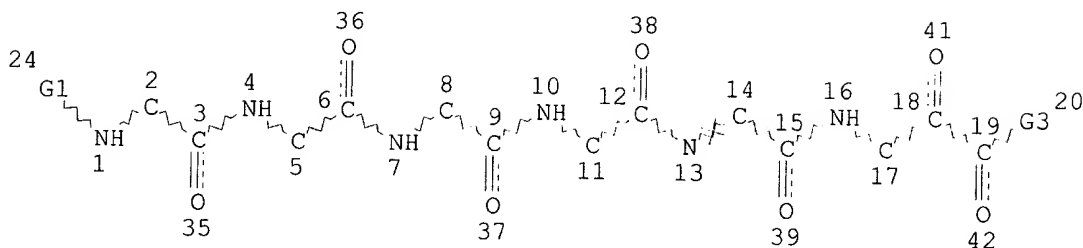
If you have any comments or questions concerning the data displayed, contact OPR / Assignments at 703-308-9723
Web interface last modified: Oct. 5, 2002

=> d que 123

L3

STR

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VAR G3=O/N

NODE ATTRIBUTES:

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CONNECT IS X3 RC AT 5

CONNECT IS X3 RC AT 8

CONNECT IS X3 RC AT 11

CONNECT IS X3 RC AT 14

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 33

STEREO ATTRIBUTES: NONE

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 L6 19 SEA FILE=HCAPLUS ABB=ON PLU=ON L5
 L7 141 SEA FILE=HCAPLUS ABB=ON PLU=ON SAKSENA A?/AU
 L10 189 SEA FILE=HCAPLUS ABB=ON PLU=ON GIRIJAVALLABHAN V?/AU
 L11 257 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 OR L10
 L12 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 AND L6 *annal cite*
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L17

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L18

L19

L21

L22

L23

381 SEA FILE=REGISTRY ABB=ON PLU=ON (L16 OR L17)

196 SEA FILE=REGISTRY ABB=ON PLU=ON L18 AND L5

3 SEA FILE=HCAPLUS ABB=ON PLU=ON L19

3 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND L6

0 SEA FILE=HCAPLUS ABB=ON PLU=ON L12 AND L22

← cpd from cite #
13 of L13
← cpds are not
in appl. cites

=> d bib 112 1-2

L12 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:90074 HCAPLUS

DN 136:151440

TI Preparation of novel peptides as NS3-serine protease inhibitors of hepatitis C virus

IN Saksena, Anil K.; Girijavallabhan, Viyyoor Moopil;

Lovey, Raymond G.; Jao, Edwin E.; Bennett, Frank; McCormick, Jinping;

Wang, Haiyan; Pike, Russell E.; Bogen, Stephane L.; Liu, Yi-Tsung;

Arasappan, Ashok; Parekh, Tejal; Pinto, Patrick A.; Njoroge, F. George;

Ganguly, Ashit K.; Brunck, Terence K.; Kemp, Scott Jeffrey; Levy, Odile

Esther; Lim-Wilby, Marguerita

PA Schering Corporation, USA; Corvas International, Inc.

SO PCT Int. Appl., 197 pp.

CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002008256	A2	20020131	WO 2001-US22826	20010719
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LU, LV, MA, MD, MG, MK, MN, MX, MZ, NO, NZ, PL, PT, RO, RU, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003036501	A1	20030220	US 2001-909062	20010719
PRAI US 2000-220109P	P	20000721		
OS MARPAT 136:151440				

L12 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:90018 HCAPLUS
DN 136:135031

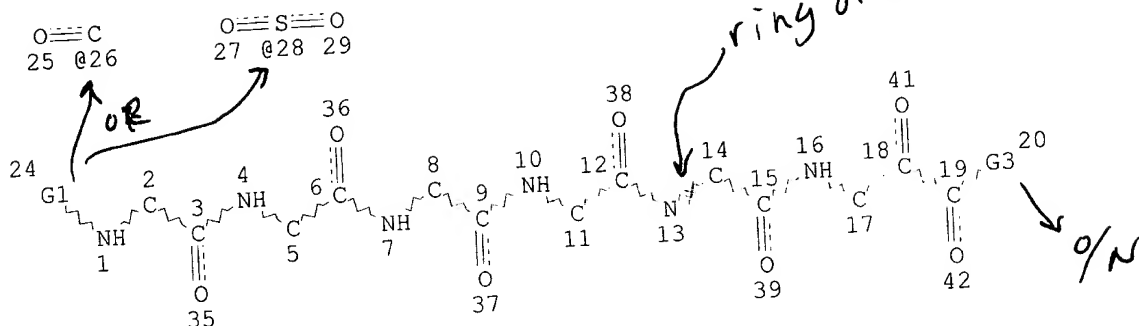
TI Preparation of novel imidazolidinones as NS3-serine protease inhibitors of hepatitis C virus
IN Arasappan, Ashok; Parekh, Tejal; Njoroge, F. George; Girijavallabhan, Viyyoor Moopil; Ganguily, Ashit K.
PA Schering Corporation, USA
SO PCT Int. Appl., 88 pp.
CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002008198	A2	20020131	WO 2001-US22828	20010719
WO 2002008198	A3	20020718		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LU, LV, MA, MD, MG, MK, MN, MX, MZ, NO, NZ, PL, PT, RO, RU, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002102235	A1	20020801	US 2001-909077	20010719
PRAI US 2000-220110P	P	20000721		
OS MARPAT 136:135031				

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L3

STR



VAR G1=26/28

VAR G3=O/N

NODE ATTRIBUTES:

CONNECT IS X3 RC AT 2
CONNECT IS X3 RC AT 5
CONNECT IS X3 RC AT 8
CONNECT IS X3 RC AT 11
CONNECT IS X3 RC AT 14
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 33

STEREO ATTRIBUTES: NONE

L5 480 SEA FILE=REGISTRY SSS FUL L3
L6 19 SEA FILE=HCAPLUS ABB=ON PLU=ON
L7 141 SEA FILE=HCAPLUS ABB=ON PLU=ON
L10 189 SEA FILE=HCAPLUS ABB=ON PLU=ON
L11 257 SEA FILE=HCAPLUS ABB=ON PLU=ON
L12 2 SEA FILE=HCAPLUS ABB=ON PLU=ON
L13 17 SEA FILE=HCAPLUS ABB=ON PLU=ON

480 cpds
19 cites

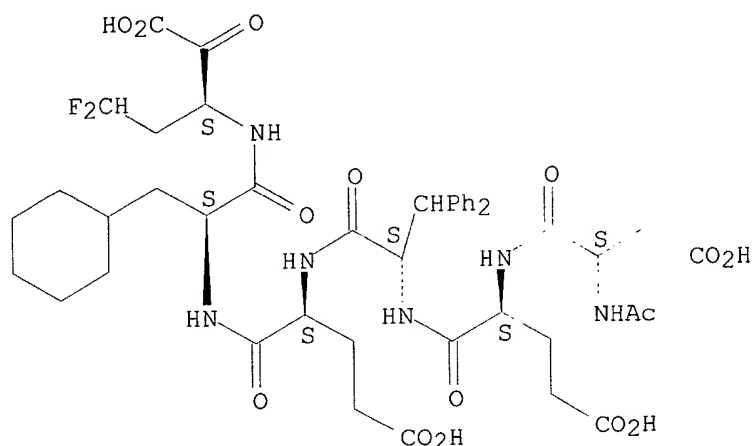
L5 19 cites
SAKSENA A?/AU
GIRIJAVALLABHAN V?/AU

2 cites are appl
17 cites remaining

=> d ibib abs hitstr 1 113

L13 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:116982 HCAPLUS
 DOCUMENT NUMBER: 137:47425
 TITLE: Evolution, synthesis and SAR of tripeptide
 .alpha.-ketoacid inhibitors of the hepatitis C virus
 NS3/NS4A serine protease
 AUTHOR(S): Colarusso, Stefania; Gerlach, Benjamin; Koch, Uwe;
 Muraglia, Ester; Conte, Immacolata; Stansfield, Ian;
 Matassa, Victor G.; Narjes, Frank
 CORPORATE SOURCE: Department of Chemistry, MRL Rome, IRBM, Rome,
 Pomezia, 00040, Italy
 SOURCE: Bioorganic & Medicinal Chemistry Letters (2002),
 12(4), 705-708
 CODEN: BMCLE8; ISSN: 0960-894X
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 137:47425
 AB N-Terminal truncation of the hexapeptide ketoacid MeCO-Asp-Glu-
 NHCH(CHPh2)CO-Glu-NHCH(CH2c-C6H11)CONHCH(CH2CHF2)CO2H (all-L stereochem.)
 (c-C6H11= cyclohexyl) gave rise to potent tripeptide inhibitors of the
 hepatitis C virus NS3 protease/NS4A cofactor complex. Optimization of
 these tripeptides led to ketoacid BOC-NHCH(c-C5H9)CO-Leu-
 NHCH(CH2CHF2)COCO2H (all-L stereochem.) (BOC = tert-butoxycarbonyl, c-C5H9
 = cyclopentyl) with an IC50 of 0.38 .mu.M. The SAR of these tripeptides is
 discussed in the light of the recently published crystal structures of a
 ternary tripeptide/NS3/NS4A complexes.
 IT **262437-54-7**
 RL: PAC (Pharmacological activity); RCT (Reactant); BIOL (Biological
 study); RACT (Reactant or reagent)
 (prepn. and structure-activity relationship of tripeptide ketoacid
 inhibitors of hepatitis C virus serine protease)
 RN 262437-54-7 HCAPLUS
 CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-
 phenyl-L-phenylalanyl-L-.alpha.-glutamyl-N-[(1S)-1-(carboxycarbonyl)-3,3-
 difluoropropyl]-3-cyclohexyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 262437-54-7DP, derivs.

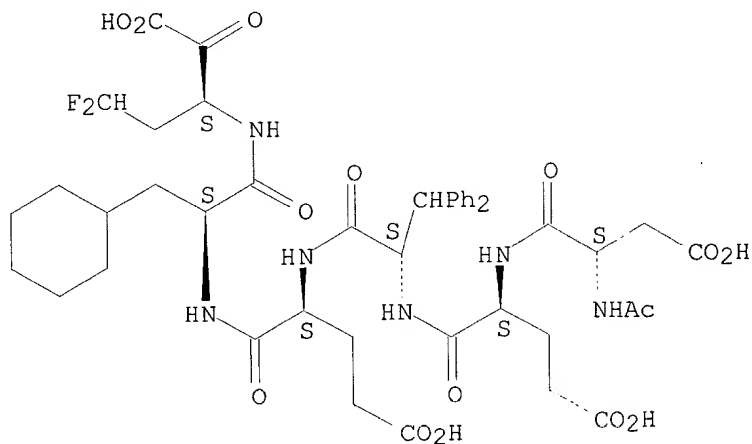
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(prepn. and structure-activity relationship of tripeptide ketoacid inhibitors of hepatitis C virus serine protease)

RN 262437-54-7 HCAPLUS

CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-N-[(1S)-1-(carboxycarbonyl)-3,3-difluoropropyl]-3-cyclohexyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

15

THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L13 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:116981 HCAPLUS

DOCUMENT NUMBER: 137:149812

TITLE: A designed P1 cysteine mimetic for covalent and non-covalent inhibitors of HCV NS3 protease

AUTHOR(S): Narjes, Frank; Koehler, Konrad F.; Koch, Uwe; Gerlach, Benjamin; Colarusso, Stefania; Steinkuhler, Christian; Brunetti, Mirko; Altamura, Sergio; De Francesco, Raffaele; Matassa, Victor G.

CORPORATE SOURCE: Department of Chemistry, MRL Rome, IRBM, Rome, Pomezia, 00040, Italy

SOURCE: Bioorganic & Medicinal Chemistry Letters (2002), 12(4), 701-704

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The difluoromethyl group was designed by computational chem. methods as a mimetic of the canonical P1 cysteine thiol for inhibitors of the hepatitis C virus NS3 protease. This modification led to the development of competitive, non-covalent inhibitor AcAspGlu-NHCH(CHPh₂)CO-Glu-NHCH(CH₂C₆H₁₁)CONHCH(CH₂CHF₂)R (I, R = CHO) Ki 30 nM and reversible covalent inhibitors (I, R = CO₂H) Ki 0.5 nM; and (I, R = COCO₂H) Ki* 10 pM.

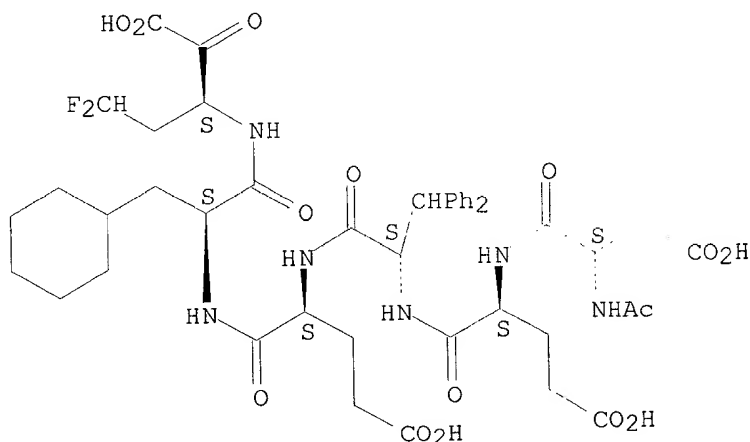
IT 262437-54-7 444990-66-3 444990-67-4

RL: PAC (Pharmacological activity); BIOL (Biological study)
(designed P1 cysteine mimetic for covalent and non-covalent inhibitors of HCV NS3 protease)

RN 262437-54-7 HCAPLUS

CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-N-[(1S)-1-(carboxycarbonyl)-3,3-difluoropropyl]-3-cyclohexyl- (9CI) (CA INDEX NAME)

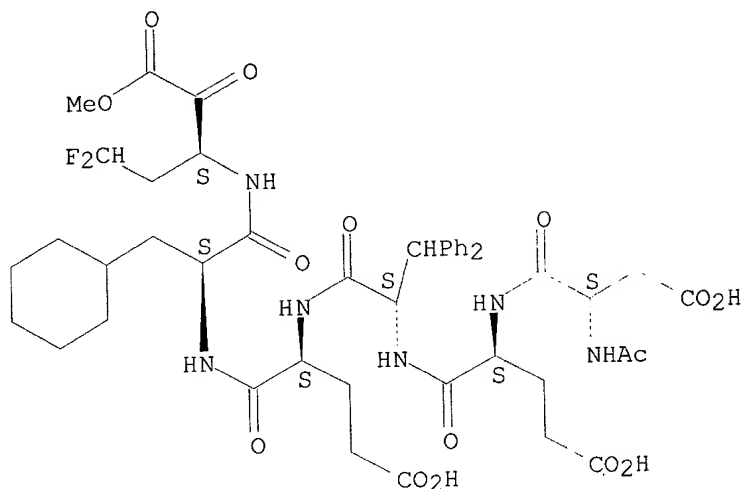
Absolute stereochemistry.



RN 444990-66-3 HCAPLUS

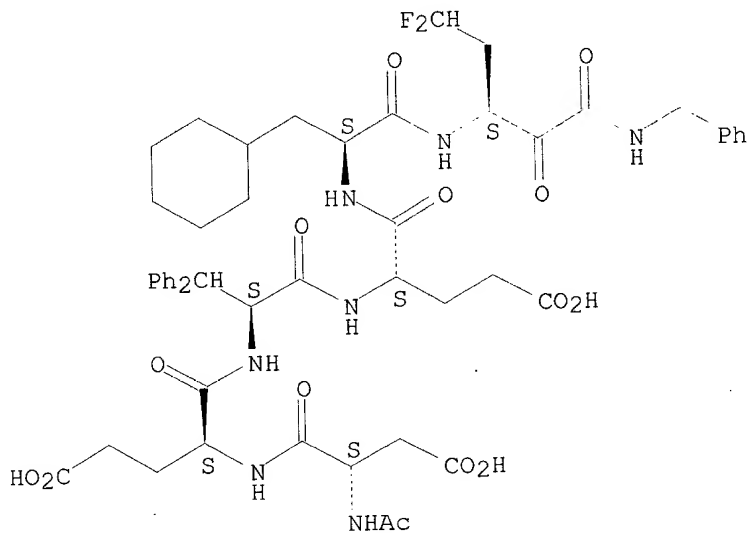
CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-3-cyclohexyl-N-[(1S)-1-(2,2-difluoroethyl)-3-methoxy-2,3-dioxopropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 444990-67-4 HCAPLUS
 CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-3-cyclohexyl-N-[(1S)-1-(2,2-difluoroethyl)-2,3-dioxo-3-[(phenylmethyl)amino]propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

27

THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr l13 3

L13 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:116966 HCAPLUS

DOCUMENT NUMBER: 137:125377

TITLE: Solution and solid-Phase synthesis of potent inhibitors of hepatitis C Virus NS3 proteinase
AUTHOR(S): Beevers, Rebekah; Carr, Maria G.; Jones, Philip S.; Jordan, Steven; Kay, Paul B.; Lazell, Robert C.; Raynham, Tony M.

CORPORATE SOURCE: Department of Chemistry, Roche Discovery Welwyn, Hertfordshire, Welwyn Garden City, AL7 3AY, UK

SOURCE: Bioorganic & Medicinal Chemistry Letters (2002), 12(4), 641-643

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:125377

AB A versatile route for the synthesis of homochiral .alpha.-ketoamide analogs of amino acids is described. Incorporation of this functionality into peptide sequences using either soln. or solid-phase chem. resulted in potent inhibitors of the hepatitis C virus (HCV) NS3 proteinase.

IT 254438-98-7P 254439-10-6P 254439-22-0P

254439-42-4P 254439-43-5P 254439-61-7P

254440-00-1P

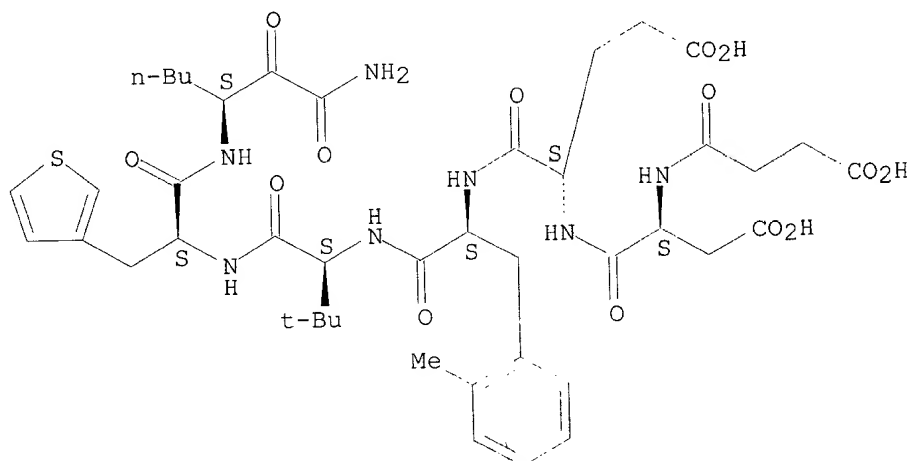
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(prepn. and biol. activity of peptide .alpha.-ketoamides as potent inhibitors of hepatitis C virus NS3 proteinase)

RN 254438-98-7 HCAPLUS

CN L-Alaninamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-3-(3-thienyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

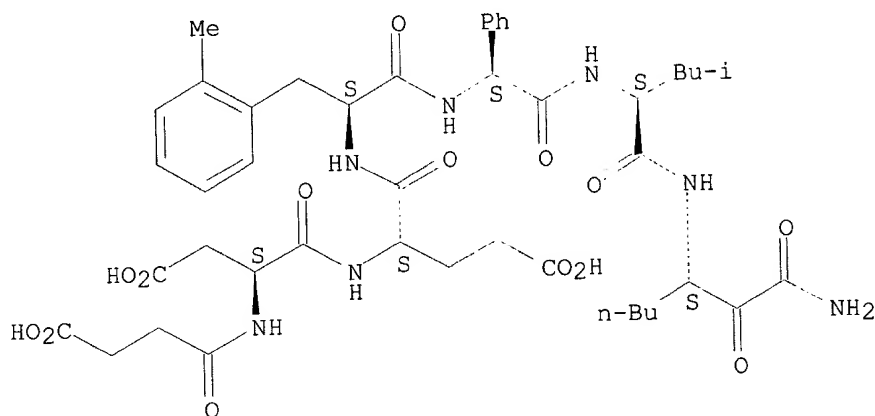


RN 254439-10-6 HCAPLUS

CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-(2S)-2-phenylglycyl-N-[(1S)-1-

(aminooxoacetyl)pentyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

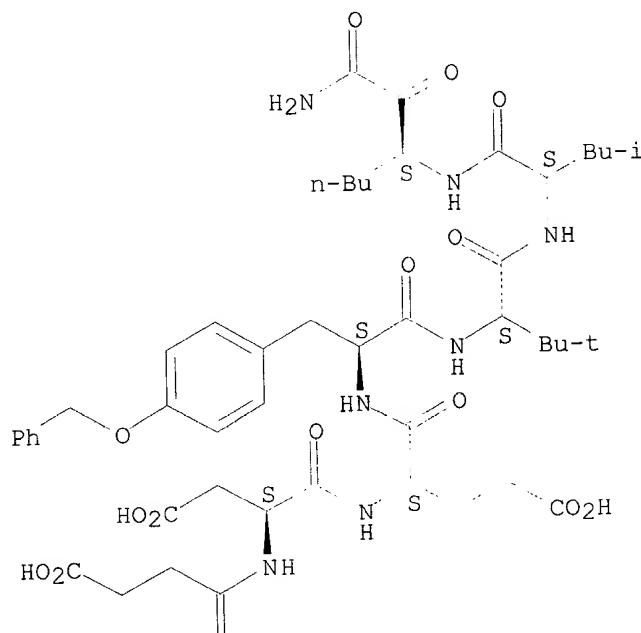


RN 254439-22-0 HCAPLUS

CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-O-(phenylmethyl)-L-tyrosyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



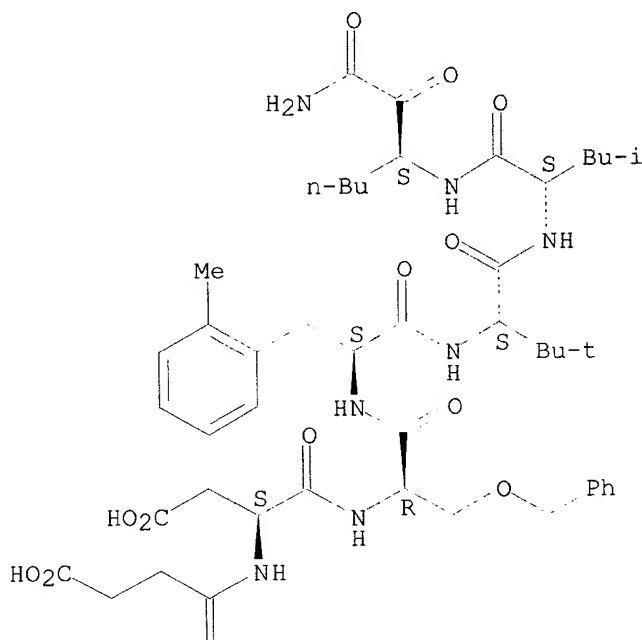
PAGE 2-A



RN 254439-42-4 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

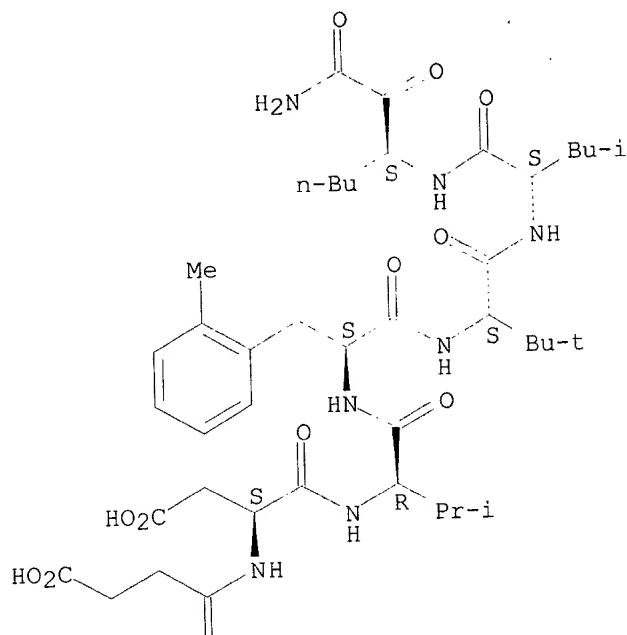


PAGE 2-A



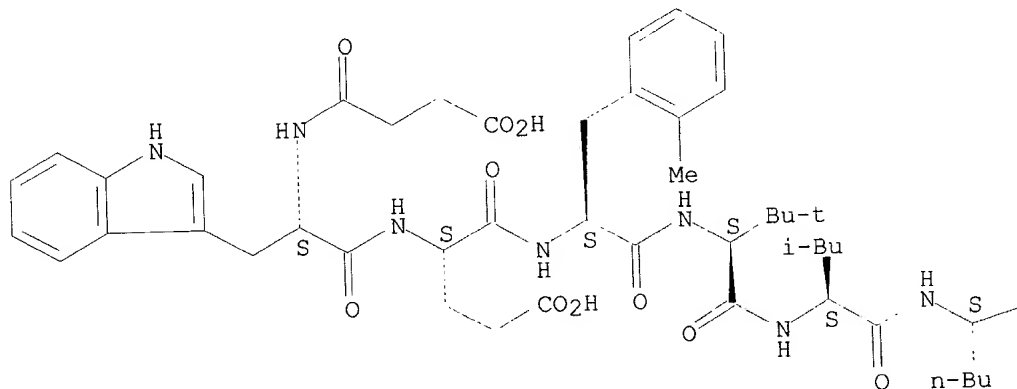
RN 254439-43-5 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-D-valyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

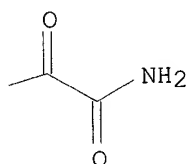


RN 254439-61-7 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-tryptophyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



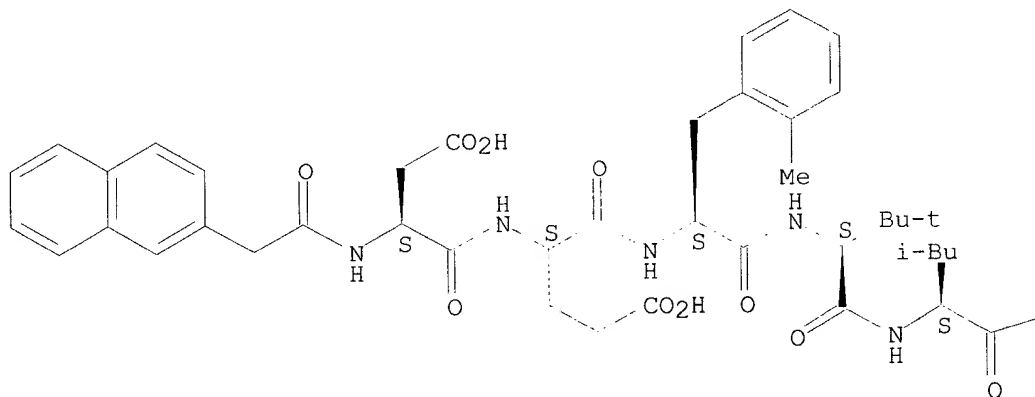
PAGE 1-B

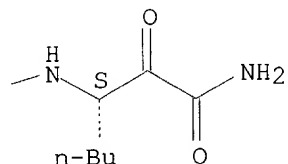


RN 254440-00-1 HCAPLUS
 CN L-Leucinamide, N-(2-naphthalenylacetyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





IT 254438-51-2P 254438-92-1P

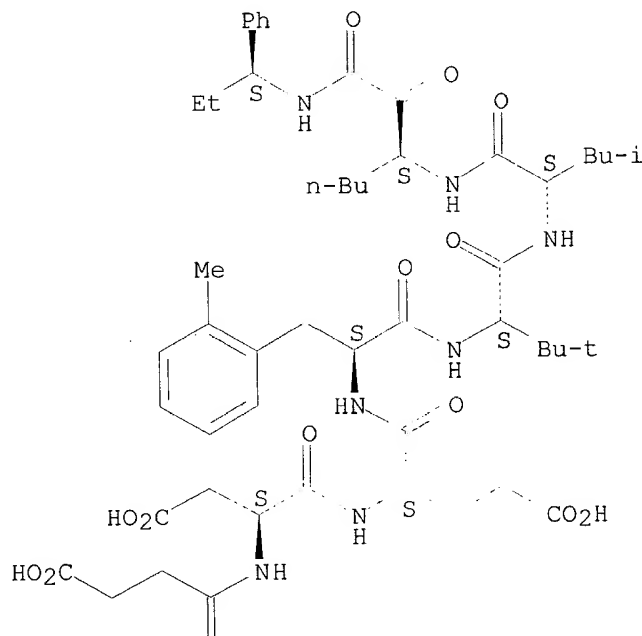
RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and biol. activity of peptide .alpha.-ketoamides as potent
 inhibitors of hepatitis C virus NS3 proteinase)

RN 254438-51-2 HCAPLUS

CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-[oxo[(1S)-1-
 phenylpropyl]amino]acetyl]pentyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

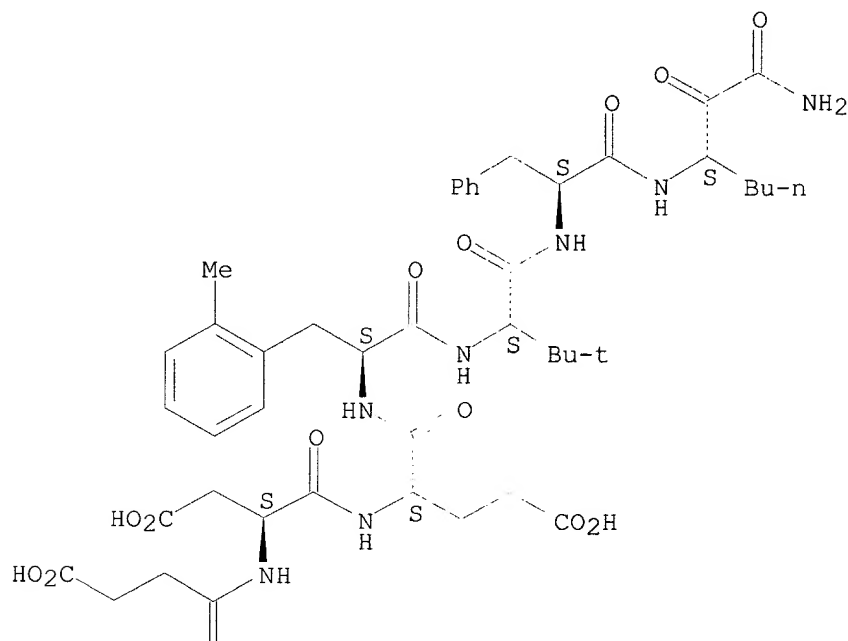
PAGE 1-A





RN 254438-92-1 HCAPLUS
 CN L-Phenylalaninamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs 113 4

L13 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:90069 HCAPLUS
 DOCUMENT NUMBER: 136:145200
 TITLE: Novel peptides as ns3-serine protease inhibitors of
 hepatitis C virus
 INVENTOR(S): Lim-Wilby, Marguerita; Levy, Odile E.; Brunck,
 Terrence K.
 PATENT ASSIGNEE(S): Corvas International, Inc., USA
 SOURCE: PCT Int. Appl., 69 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002008251	A2	20020131	WO 2001-US23169	20010719
WO 2002008251	A3	20030109		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LU, LV, MA, MD, MG, MK, MN, MX, MZ, NO, NZ, PL, PT, RO, RU, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002068702	A1	20020606	US 2001-909164	20010719

PRIORITY APPLN. INFO.: US 2000-220101P P 20000721
 OTHER SOURCE(S): MARPAT 136:145200

AB The present invention discloses novel peptide compds. contg. eleven amino acid residues which have hepatitis C virus (HCV) protease inhibitory activity as well as methods for prepg. such compds. In another embodiment, the invention discloses pharmaceutical compns. comprising such peptides as well as methods of using them to treat disorders assocd. with the HCV protease.

=> d occ 113 4

L13 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2003 ACS
 FIELD COUNT
 IT 49

=> d ibib abs hitstr l13 5

L13 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:908495 HCAPLUS

DOCUMENT NUMBER: 136:241125

TITLE: Activity of recombinant dengue 2 virus NS3 protease in the presence of a truncated NS2B co-factor, small peptide substrates, and inhibitors

AUTHOR(S): Leung, Donmienne; Schroder, Kate; White, Helen; Fang, Ning-Xia; Stoermer, Martin J.; Abbenante, Giovanni; Martin, Jennifer L.; Young, Paul R.; Fairlie, David P.

CORPORATE SOURCE: Centre for Drug Design and Development, Institute for Molecular Bioscience, School of Molecular and Microbial Sciences, University of Queensland, Brisbane, 4072, Australia

SOURCE: Journal of Biological Chemistry (2001), 276(49), 45762-45771

CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Recombinant forms of the dengue 2 virus NS3 protease linked to a 40-residue co-factor, corresponding to part of NS2B, have been expressed in *Escherichia coli* and shown to be active against para-nitroanilide substrates comprising the P6-P1 residues of four substrate cleavage sequences. The enzyme is inactive alone or after the addn. of a putative 13-residue co-factor peptide but is active when fused to the 40-residue co-factor, by either a cleavable or a noncleavable glycine linker. The NS4B/NS5 cleavage site was processed most readily, with optimal processing conditions being pH 9, I = 10 mM, 1 mM CHAPS, 20% glycerol. A longer 10-residue peptide corresponding to the NS2B/NS3 cleavage site (P6-P4') was a poorer substrate than the hexapeptide (P6-P1) para-nitroanilide substrate under these conditions, suggesting that the prime side substrate residues did not contribute significantly to protease binding. We also report the first inhibitors of a co-factor-complexed, catalytically active flavivirus NS3 protease. Aprotinin was the only std. serine protease inhibitor to be active, whereas a no. of peptide substrate analogs were competitive inhibitors at micromolar concns.

IT 404586-84-1 404586-85-2 404586-86-3

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

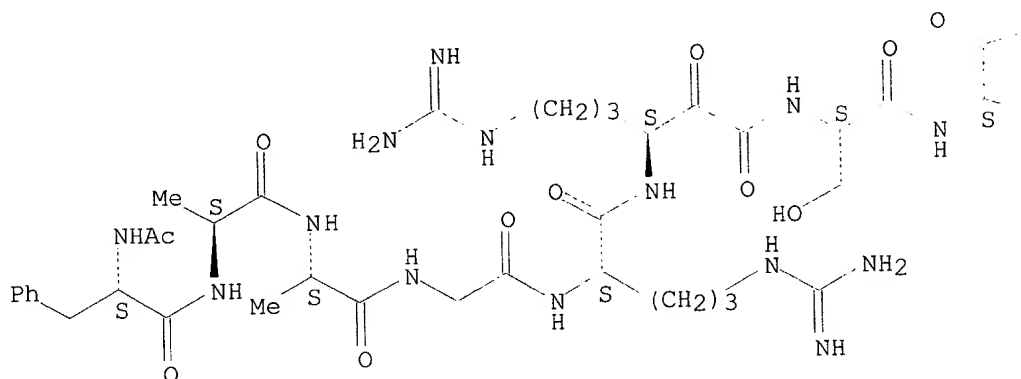
(activity of recombinant dengue 2 virus NS3 protease in the presence of a truncated NS2B co-factor, small peptide substrates, and inhibitors)

RN 404586-84-1 HCAPLUS

CN L-Leucinamide, N-acetyl-L-phenylalanyl-L-alanyl-L-alanylglycyl-L-arginyl-(3S)-3-amino-6-[(aminoiminomethyl)amino]-2-oxohexanoyl-L-seryl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

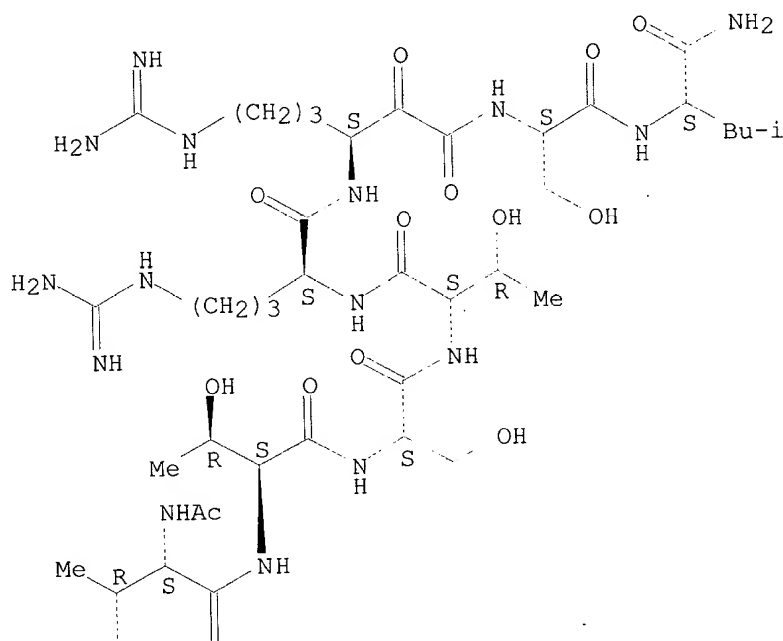
NH2

Bu-i

RN 404586-85-2 HCAPLUS
 CN L-Leucinamide, N-acetyl-L-threonyl-L-threonyl-L-seryl-L-threonyl-L-arginyl-
 (3S)-3-amino-6-[(aminoiminomethyl)amino]-2-oxohexanoyl-L-seryl- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



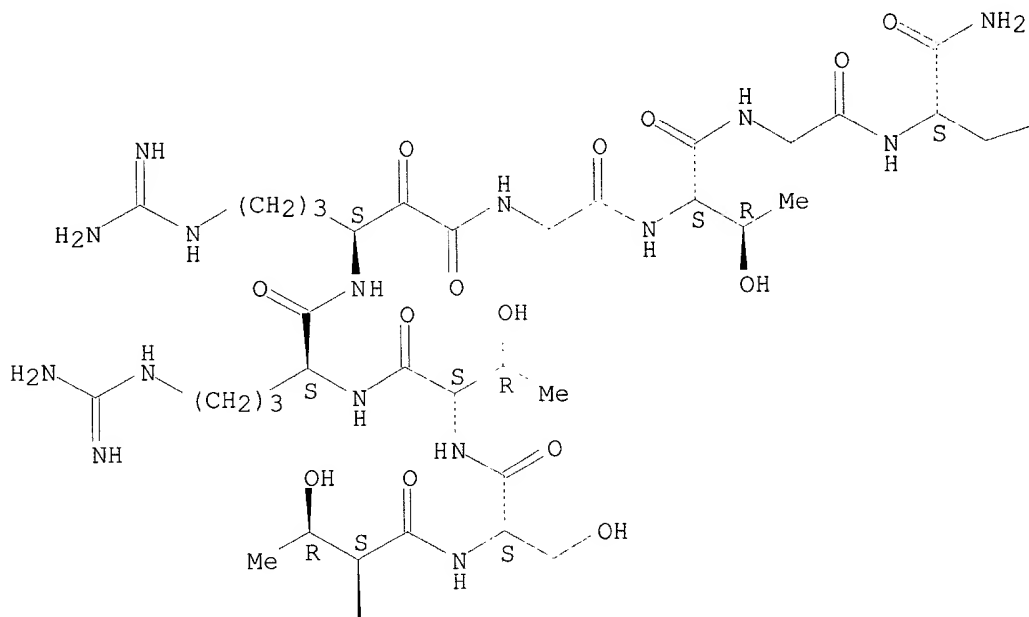
PAGE 2-A



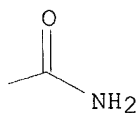
RN 404586-86-3 HCAPLUS
 CN L-Aspartamide, N-acetyl-L-threonyl-L-threonyl-L-seryl-L-threonyl-L-arginyl-
 (3S)-3-amino-6-[(aminoiminomethyl)amino]-2-oxohexanoylglycyl-L-
 threonylglycyl- (9CI) (CA INDEX NAME)

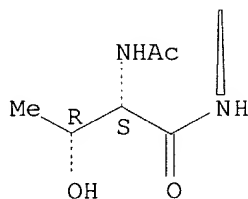
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B





REFERENCE COUNT:

39

THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr 113 6

L13 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:798033 HCAPLUS

DOCUMENT NUMBER: 135:356779

TITLE: Artificial antigen-presenting cells for manipulation
of antigen-specific T-cells

INVENTOR(S): Albani, Salvatore

PATENT ASSIGNEE(S): USA

SOURCE: PCT Int. Appl., 195 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001080833	A1	20011101	WO 2000-IT161	20000420
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: WO 2000-IT161 20000420

AB The authors discloses the prepn. and characterization of artificial antigen-presenting cells. These artificial antigen-presenting cells may be used in isolating and expanding T-cell populations as well as modulating T-cell responses. In several examples, the author discloses methods for the construction of liposomes contg. MHC-peptide complexes, accessory mols., co-stimulatory mols., and adhesion mols. In addn., the liposome can contain other mols. irrelevant to T-cell binding or modulation that are used in binding of these artificial antigen-presenting cells to solid support systems that may be used in the retrieval and identification of antigen-specific T-cells. Addnl., the present invention is directed to devices and methods for treating conditions which would benefit from modulation of T-cell response, for example, autoimmune disorders, allergies, cancers, viral infections, and graft rejection.

IT 372073-88-6

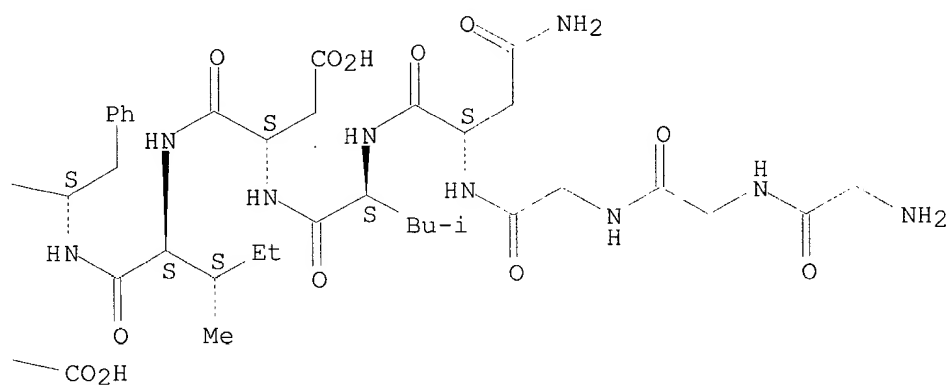
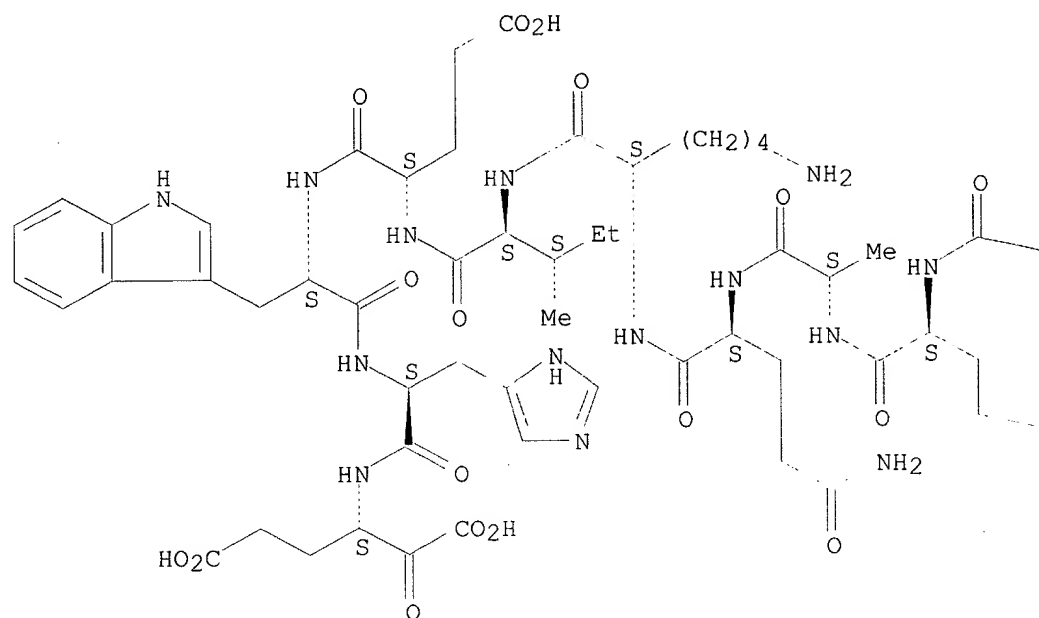
RL: PRP (Properties)

(unclaimed sequence; artificial antigen-presenting cells for
manipulation of antigen-specific T-cells)

RN 372073-88-6 HCAPLUS

CN 24: PN: WO0180833 PAGE: 116 unclaimed sequence (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr l13 7

L13 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:137392 HCAPLUS

DOCUMENT NUMBER: 134:188969

TITLE: Baculovirus expression system and methods for

preparing replication-deficient baculovirus vectors

using bacterial and yeast as intermediate hosts

INVENTOR(S): Possee, Robert David; King, Linda Anne

PATENT ASSIGNEE(S): Oxford Brookes University, UK; Natural Environment
Research Council

SOURCE: PCT Int. Appl., 54 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001012829	A2	20010222	WO 2000-GB3144	20000814
WO 2001012829	A3	20020117		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1144666	A2	20011017	EP 2000-951760	20000814
EP 1144666	A3	20020508		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: GB 1999-19409 A 19990818

WO 2000-GB3144 W 20000814

AB The application relates for method for cloning the gene comprising the steps of: (1) providing a replication-deficient baculovirus vector; (2) providing a rescue vector comprising (a) nucleic acid sequence which is capable of restoring replication in the replication-deficient baculovirus vector and (b) at least one gene to be cloned; (3) causing the replication-deficient baculovirus vector and rescue vector to recombine to produce a replication-enabled baculovirus vector comprising the at least one gene to be cloned; and (4) growing the replication-enabled baculovirus vector within a suitable invertebrate cell, such as an insect cell. Preferably the baculovirus vector is based upon AcMNPV. Also disclosed are replication-deficient baculovirus vectors, rescue vectors, cells contg. such vectors and kits comprising such vectors. The invention is exemplified by prodn. of a recombinant baculovirus expression vector contg. a deletion within the lef-2 gene using yeast cells as intermediate host. A vector expressing a c-myc-tagged AcMNPV lef-2 is used as helper virus to cotransfect the insect cells. The addn. of C-Myc tag to LEF-2 does not affect expression of other virus genes shown by expressing three other virus proteins in Aclef-2-c-mycS'-infected cells. Recombinant baculovirus with a bacterial origin of replication BacPAK6 lacking other genes essential for virus replication (such as ORF1629 encoding nucleocapsid protein) are also tested.

IT 327611-61-0

RL: PRP (Properties)

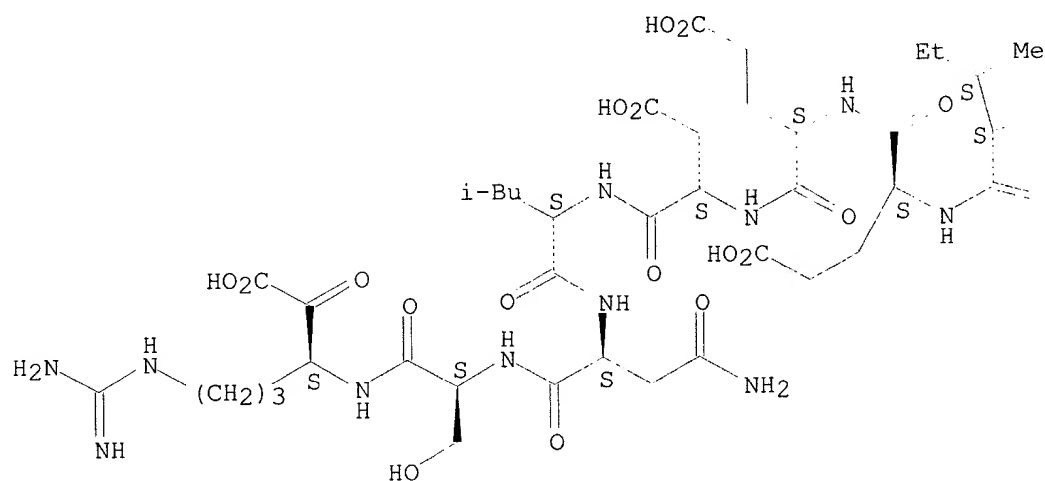
PRP (Properties)
(unclaimed sequence; baculovirus expression system and methods for
prepg. replication-deficient baculovirus vectors using bacterial and
yeast as intermediate hosts)

RN 327611-61-0 HCAPLUS

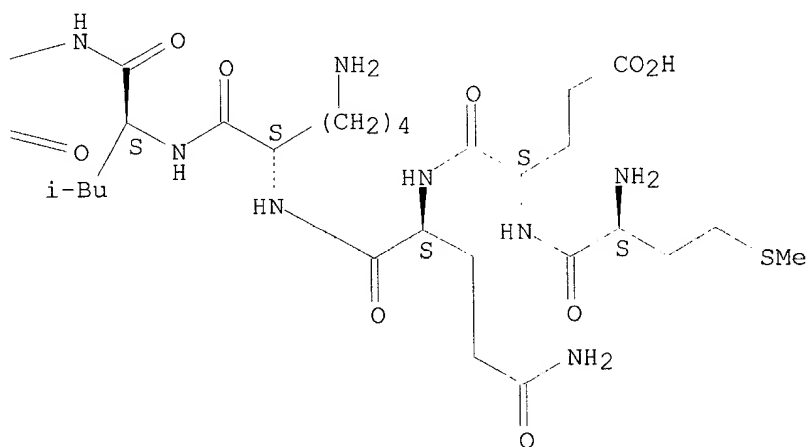
RN 327611-61-0 HCAPLUS
CN 39: PN: WO0112829 PAGE: 22 unclaimed sequence (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



=> d ibib abs hitstr 113 8

L13 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:118619 HCAPLUS

DOCUMENT NUMBER: 134:305008

TITLE: The identification of .alpha.-ketoamides as potent

inhibitors of hepatitis c virus NS3-4A proteinase

AUTHOR(S): Bennett, J. M.; Campbell, A. D.; Campbell, A. J.;
Carr, M. G.; Dunsdon, R. M.; Greening, J. R.; Hurst,
D. N.; Jennings, N. S.; Jones, P. S.; Jordan, S.; Kay,
P. B.; O'Brien, M. A.; King-Underwood, J.; Raynham, T.
M.; Wilkinson, C. S.; Wilkinson, T. C. I.; Wilson, F.
X.CORPORATE SOURCE: Department of Viral Diseases, Roche Discovery Welwyn,
Hertfordshire, Welwyn Garden City, AL7 3AY, UKSOURCE: Bioorganic & Medicinal Chemistry Letters (2001),
11(3), 355-357

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

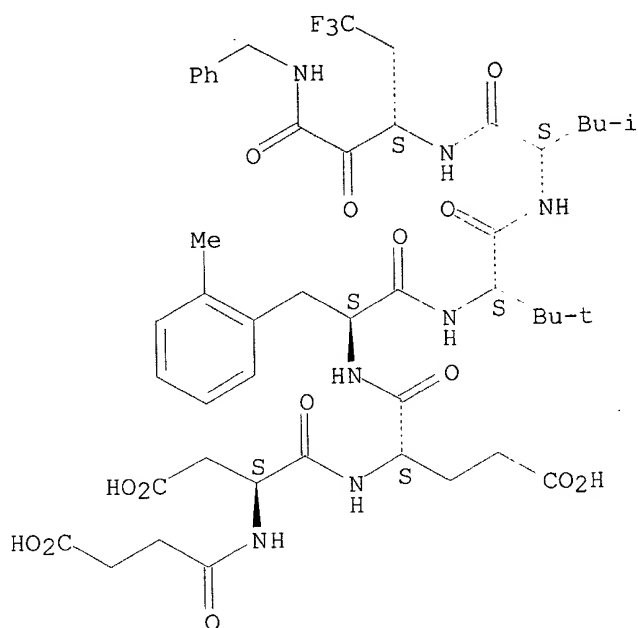
LANGUAGE: English

AB Peptides based upon the non-prime side residues of the NS4A-4B cleavage
site of hepatitis C virus (HCV) NS3-4A proteinase contg. an
.alpha.-ketoamide moiety in place of the scissile amide bond are potent
inhibitors of this enzyme.IT **335336-84-0P**RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)(prepn. of ketoamides as potent inhibitors of hepatitis C virus NS3-4A
proteinase)

RN 335336-84-0 HCAPLUS

CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-2,3-dioxo-3-
[(phenylmethyl)amino]-1-(2,2,2-trifluoroethyl)propyl]- (9CI) (CA INDEX
NAME)

Absolute stereochemistry.



IT 254438-07-8 254439-45-7 335336-85-1
 335336-86-2 335336-87-3 335336-88-4
 335336-89-5 335336-90-8 335336-91-9
 335336-92-0

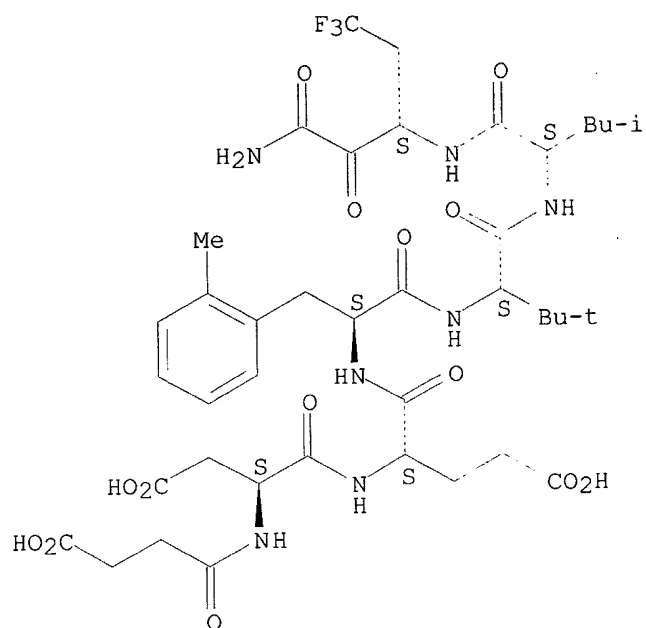
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prepn. of ketoamides as potent inhibitors of hepatitis C virus NS3-4A proteinase)

RN 254438-07-8 HCAPLUS

CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-3-amino-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI) (CA INDEX NAME)

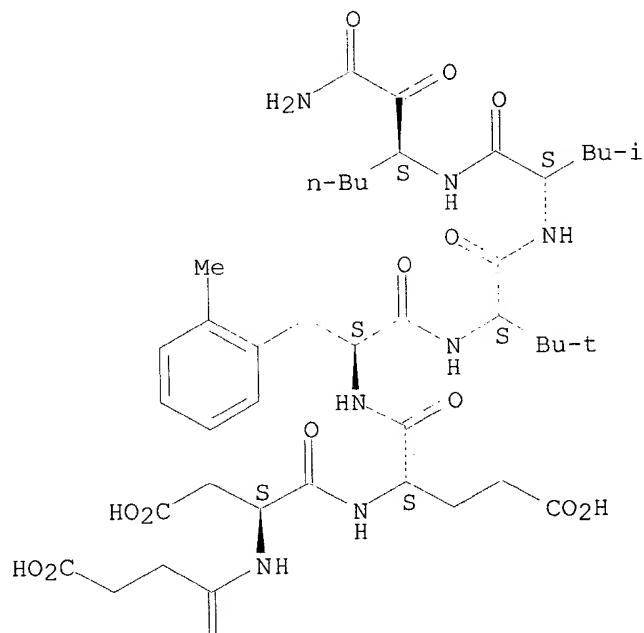
Absolute stereochemistry.



RN 254439-45-7 HCAPLUS
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Absolute stereochemistry.

PAGE 1-A



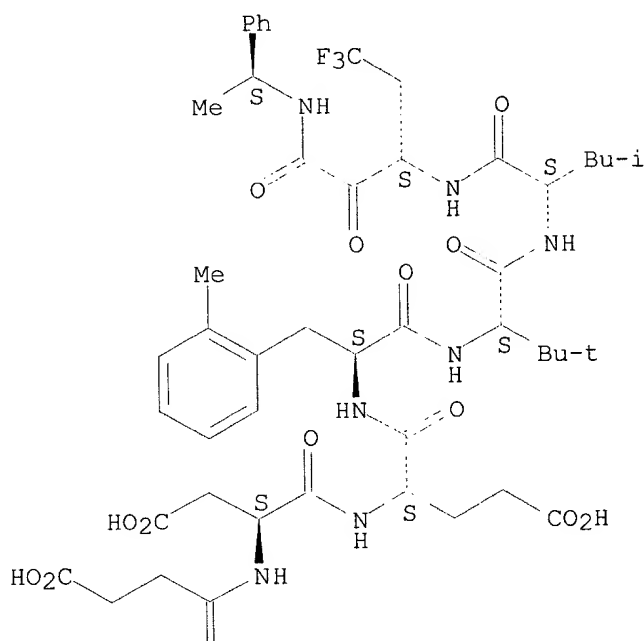
PAGE 2-A



RN 335336-85-1 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-2,3-dioxo-3-
 [[(1S)-1-phenylethyl]amino]-1-(2,2,2-trifluoroethyl)propyl]- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

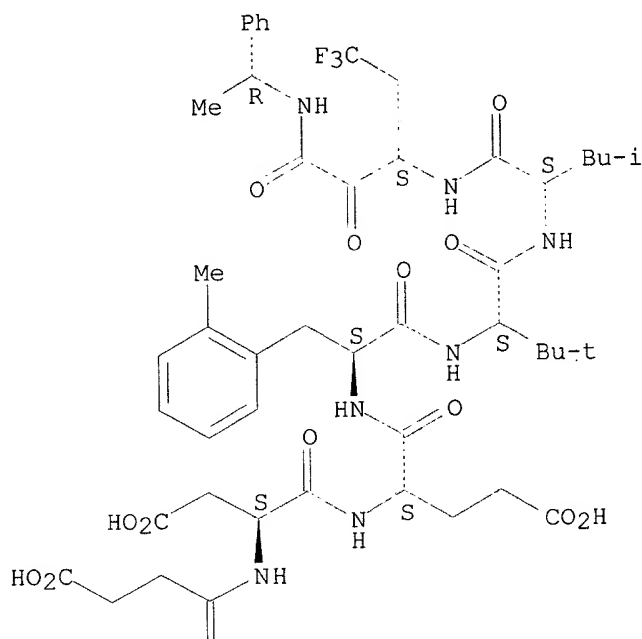


PAGE 2-A



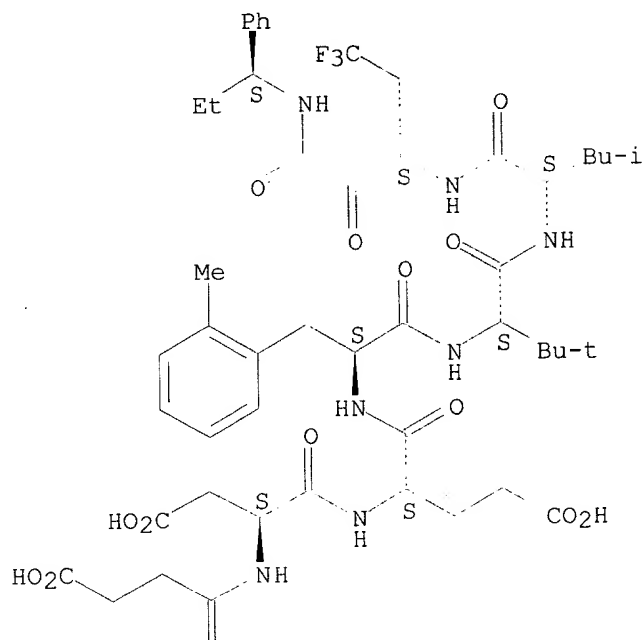
RN 335336-86-2 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-2,3-dioxo-3-
 [[(1R)-1-phenylethyl]amino]-1-(2,2,2-trifluoroethyl)propyl]- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.



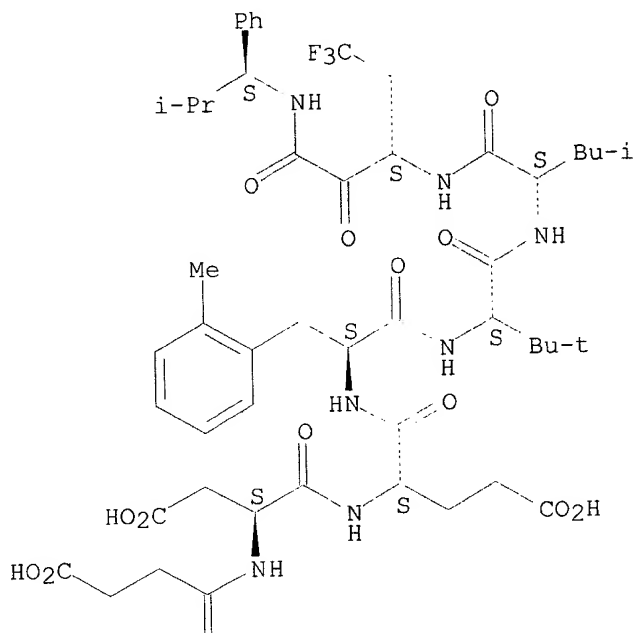
RN 335336-87-3 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-2,3-dioxo-3-
 [[(1S)-1-phenylpropyl]amino]-1-(2,2,2-trifluoroethyl)propyl]- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.



RN 335336-88-4 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-3-[[1S)-2-
 methyl-1-phenylpropyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-
 (9CI) (CA INDEX NAME)

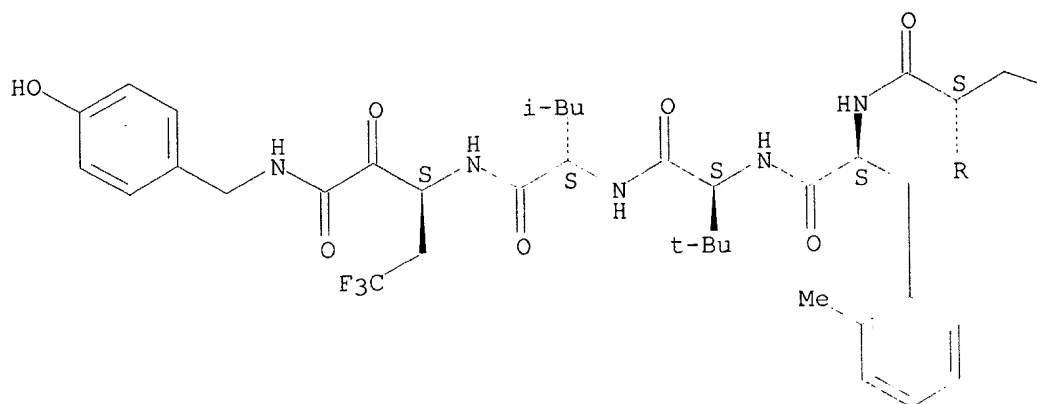
Absolute stereochemistry.



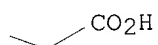
RN 335336-89-5 HCAPLUS
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 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-3-[[[4-
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 (9CI) (CA INDEX NAME)

Absolute stereochemistry.

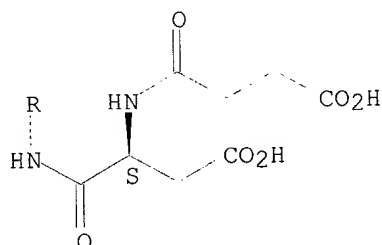
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PAGE 1-B



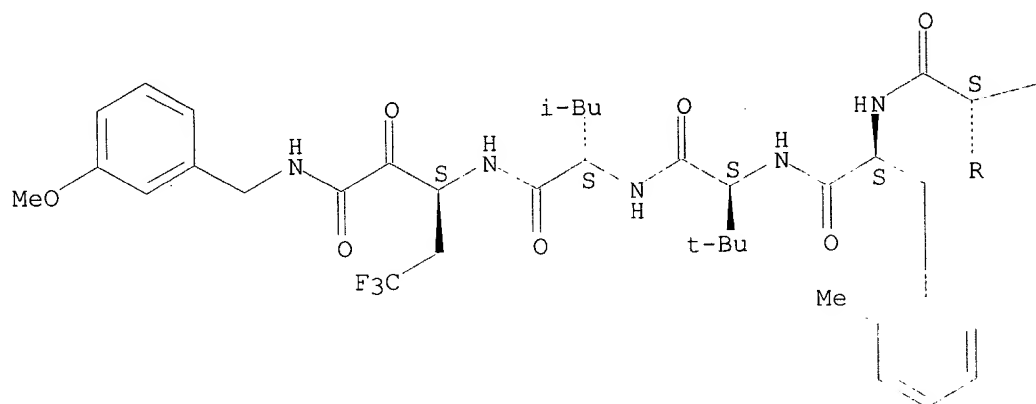
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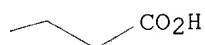
RN 335336-90-8 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-3-[[3-
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 (9CI) (CA INDEX NAME)

Absolute stereochemistry.

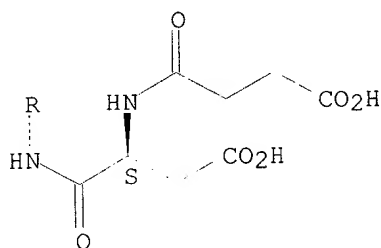
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PAGE 1-B



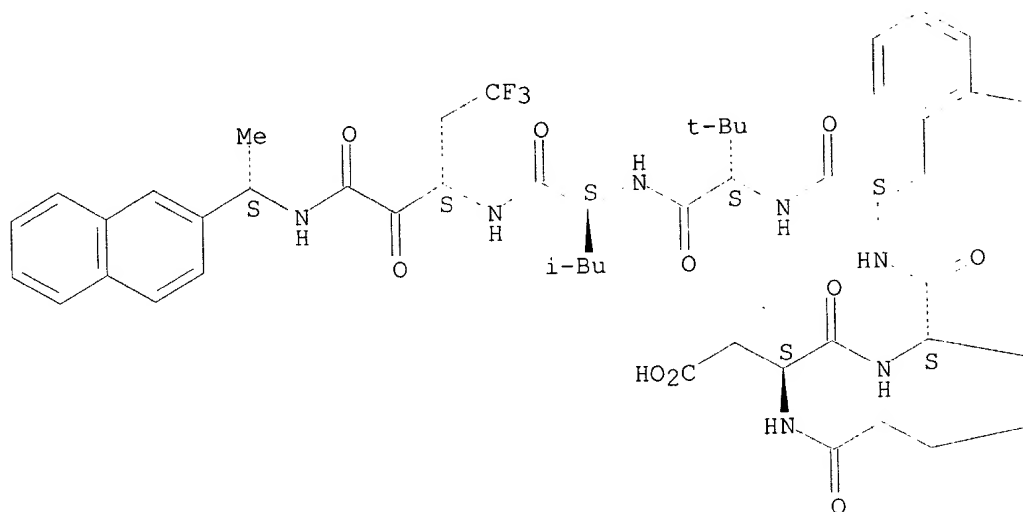
PAGE 2-A



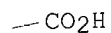
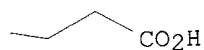
RN 335336-91-9 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-3-[[[(1S)-1-(2-
 naphthalenyl)ethyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



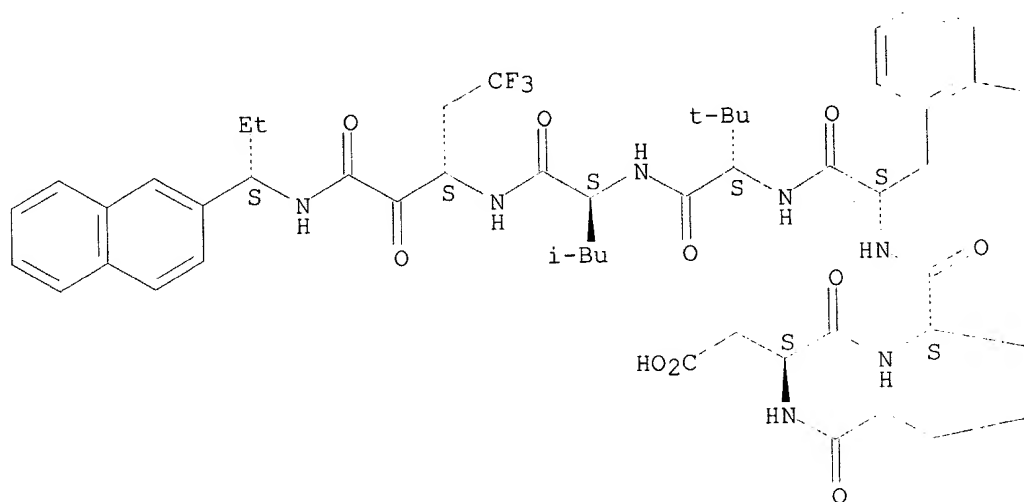
PAGE 1-B



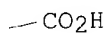
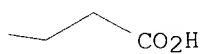
RN 335336-92-0 HCAPLUS
 CN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-3-[[[(1S)-1-(2-
 naphthalenyl)propyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT:

14

THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr l13 9

L13 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:352482 HCAPLUS

DOCUMENT NUMBER: 133:189820

TITLE: Probing the active site of the hepatitis C virus
serine protease by fluorescence resonance energy
transferAUTHOR(S): Fattori, Daniela; Urbani, Andrea; Brunetti, Mirko;
Ingenito, Raffaele; Pessi, Antonello; Prendergast,
Kristine; Narjes, Frank; Matassa, Victor G.; De
Francesco, Raffaele; Steinkuhler, ChristianCORPORATE SOURCE: Istituto di Ricerche di Biologia Molecolare "P.
Angeletti", Rome, 00040, ItalySOURCE: Journal of Biological Chemistry (2000), 275(20),
15106-15113

CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular
Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A serine protease domain contained within the viral NS3 protein is a key player in the maturational processing of the hepatitis C virus polyprotein and a prime target for the development of antiviral drugs. In the present work, we describe a dansylated hexapeptide inhibitor of this enzyme. Active site occupancy by this compd. could be monitored following fluorescence resonance energy transfer between the dansyl fluorophore and protein tryptophan residues and could be used to (1) unambiguously assess active site binding of NS3 protease inhibitors, (2) directly det. equil. and pre-steady-state parameters of enzyme-inhibitor complex formation, and (3) dissect, using site-directed mutagenesis, the contribution of single residues of NS3 to inhibitor binding in direct binding assays. The assay was also used to characterize the inhibition of the NS3 protease by its cleavage products. We show that enzyme-product inhibitor complex formation depends on the presence of an NS4A cofactor peptide. Equil. and pre-steady-state data support an ordered mechanism of ternary (enzyme-inhibitor-cofactor) complex formation, requiring cofactor complexation prior to inhibitor binding.

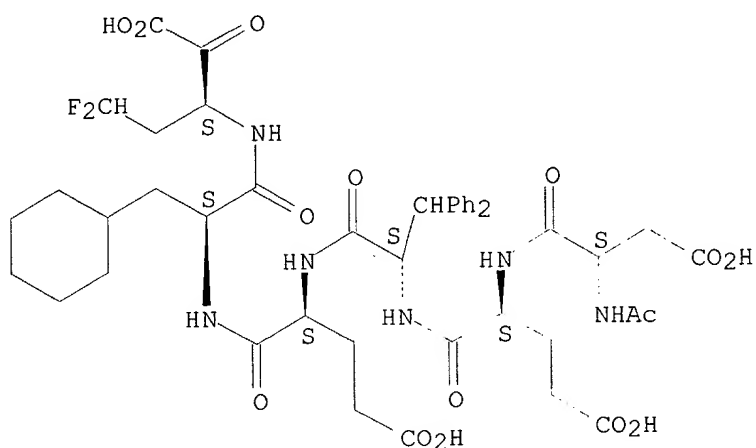
IT 262437-54-7

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitor; probing the active site of the hepatitis C virus NS3 serine
proteinase by fluorescence resonance energy transfer)

RN 262437-54-7 HCAPLUS

CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-
phenyl-L-phenylalanyl-L-.alpha.-glutamyl-N-[(1S)-1-(carboxycarbonyl)-3,3-
difluoropropyl]-3-cyclohexyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

42

THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L13 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:269109 HCAPLUS

DOCUMENT NUMBER: 133:43798

TITLE: .alpha.-Keto amides, .alpha.-keto esters, and
 .alpha.-diketones as HCV NS3 protease inhibitors
 AUTHOR(S): Han, Wei; Hu, Zilun; Jiang, Xiangjun; Decicco, Carl P.
 CORPORATE SOURCE: Department of Chemical and Physical Sciences, DuPont
 Pharmaceuticals Company, Wilmington, DE, 19880, USA
 SOURCE: Bioorganic & Medicinal Chemistry Letters (2000),
 10(8), 711-713
 CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:43798

AB Peptide-based .alpha.-keto amides, .alpha.-keto esters, and
 .alpha.-diketones were designed, synthesized, and evaluated against
 hepatitis C virus NS3 protease. .alpha.-Keto amides have the highest
 affinity among the 3 classes (IC50 .ltoreq. 340 nM).

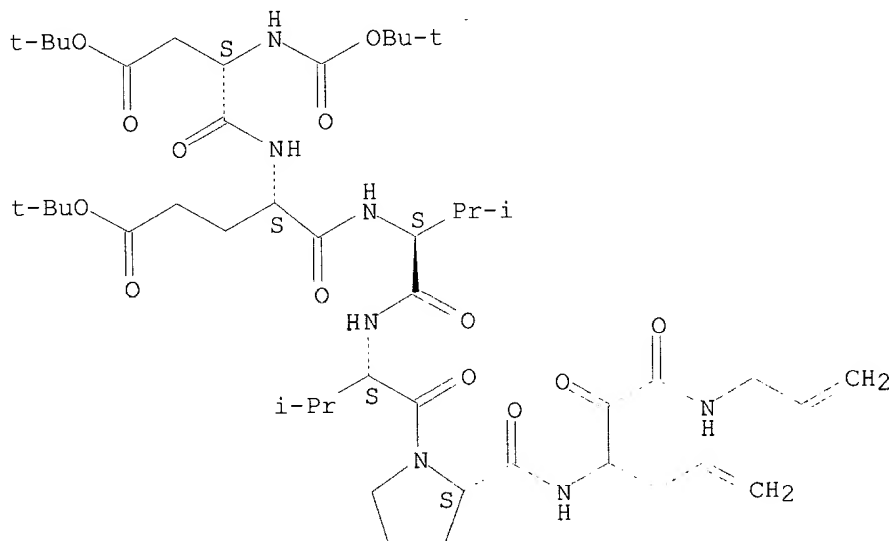
IT 274918-61-5 274918-62-6 274918-63-7

RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); BIOL (Biological study)
 (prepn. of peptide-based .alpha.-keto amides, .alpha.-keto esters, and
 .alpha.-diketones as HCV NS3 protease inhibitors)

RN 274918-61-5 HCAPLUS

CN L-Prolinamide, N-[(1,1-dimethylethoxy)carbonyl]-L-.alpha.-aspartyl-L-
 .alpha.-glutamyl-L-valyl-L-valyl-N-[1-[oxo(2-propenylamino)acetyl]-3-
 butenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

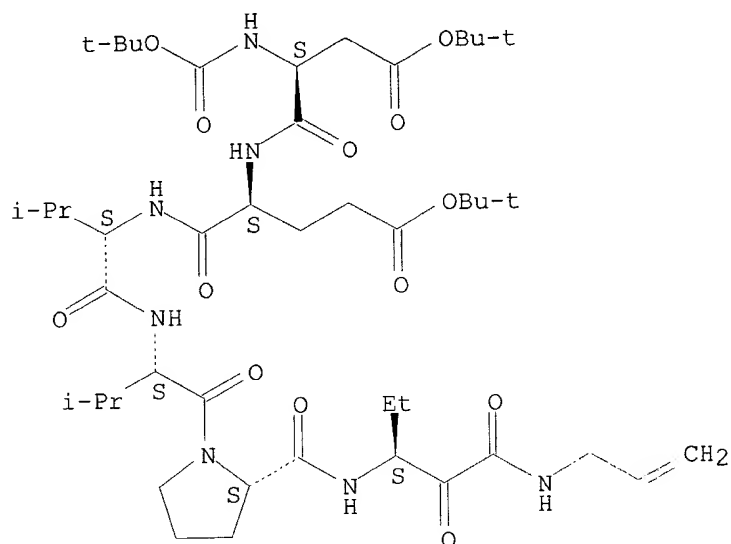


RN 274918-62-6 HCAPLUS

CN L-Prolinamide, N-[(1,1-dimethylethoxy)carbonyl]-L-.alpha.-aspartyl-L-
 .alpha.-glutamyl-L-valyl-L-valyl-N-[(1S)-1-ethyl-2,3-dioxo-3-(2-
 propenylamino)propyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX

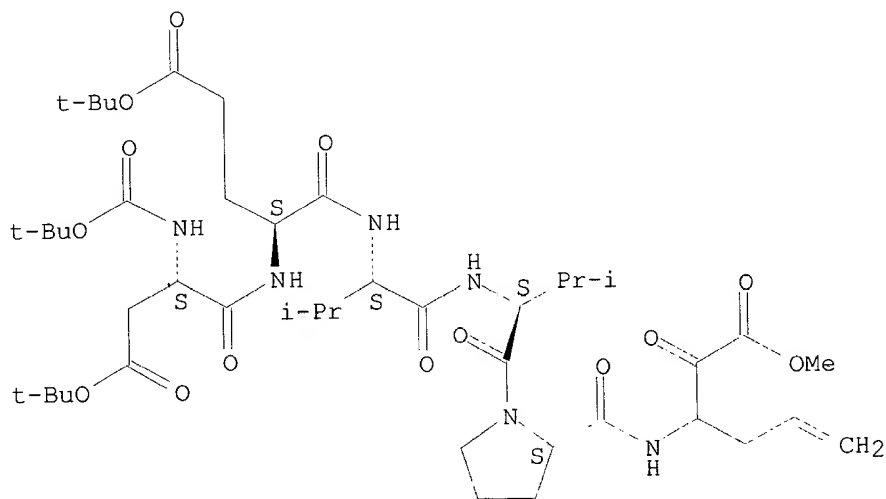
NAME)

Absolute stereochemistry.



RN 274918-63-7 HCAPLUS
 CN L-Prolinamide, N-[(1,1-dimethylethoxy)carbonyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-L-valyl-L-valyl-N-[1-(methoxyoxoacetyl)-3-butenyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

21

THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr l13 11

L13 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:68910 HCAPLUS

DOCUMENT NUMBER: 132:245829

TITLE: .alpha.-Ketoacids Are Potent Slow Binding Inhibitors

of the Hepatitis C Virus NS3 Protease

AUTHOR(S): Narjes, Frank; Brunetti, Mirko; Colarusso, Stefania;

Gerlach, Benjamin; Koch, Uwe; Biasiol, Gabriella;

Fattori, Daniela; De Francesco, Raffaele; Matassa,

Victor G.; Steinkuehler, Christian

CORPORATE SOURCE: Departments of Biochemistry Medicinal Chemistry and

Computational Chemistry, Istituto di Ricerche di

Biologia Molecolare (IRBM) P. Angeletti, Pomezia,

00040, Italy

SOURCE: Biochemistry (2000), 39(7), 1849-1861

CODEN: BICHAW; ISSN: 0006-2960

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The replication of the hepatitis C virus (HCV), an important human pathogen, crucially depends on the proteolytic maturation of a large viral polyprotein precursor. The viral nonstructural protein 3 (NS3) harbors a serine protease domain that plays a pivotal role in this process, being responsible for four out of the five cleavage events that occur in the nonstructural region of the HCV polyprotein. We here show that hexapeptide, tetrapeptide, and tripeptide .alpha.-ketoacids are potent, slow binding inhibitors of this enzyme. Their mechanism of inhibition involves the rapid formation of a noncovalent collision complex in a diffusion-limited, electrostatically driven assocn. reaction followed by a slow isomerization step resulting in a very tight complex. PH dependence expts. point to the protonated catalytic His 57 as an important determinant for formation of the collision complex. K_i values of the collision complexes vary between 3 nM and 18.5 μ M and largely depend on contacts made by the peptide moiety of the inhibitors. Site-directed mutagenesis indicates that Lys 136 selectively participates in stabilization of the tight complex but not of the collision complex. A significant solvent isotope effect on the isomerization rate const. is suggestive of a chem. step being rate limiting for tight complex formation. The potency of these compds. is dominated by their slow disocn. rate consts., leading to complex half-lives of 11-48 h and overall K_i values between 10 pM and 67 nM. The rate consts. describing the formation and the disocn. of the tight complex are relatively independent of the peptide moiety and appear to predominantly reflect the intrinsic chem. reactivity of the ketoacid function.

IT 262437-54-7P 262437-57-0P

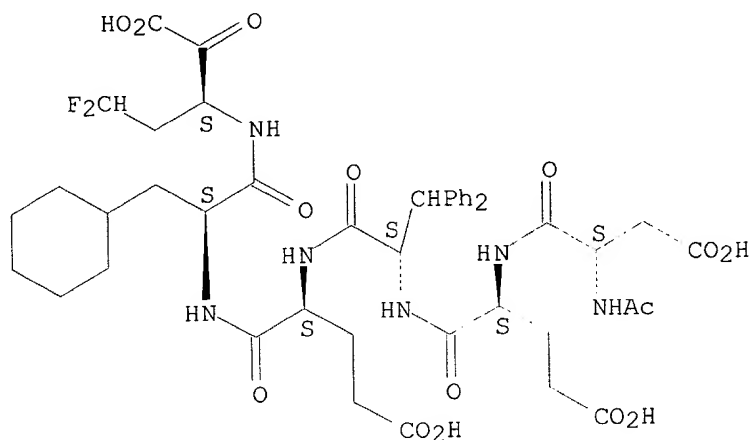
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of .alpha.-ketoacids as potent slow binding inhibitors of hepatitis C virus NS3 protease)

RN 262437-54-7 HCAPLUS

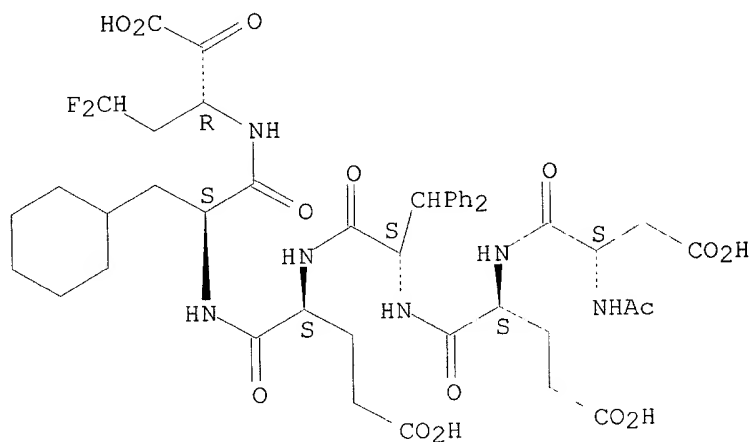
CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-N-[(1S)-1-(carboxycarbonyl)-3,3-difluoropropyl]-3-cyclohexyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 262437-57-0 HCAPLUS
 CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-N-[(1R)-1-(carboxycarbonyl)-3,3-difluoropropyl]-3-cyclohexyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

58

THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

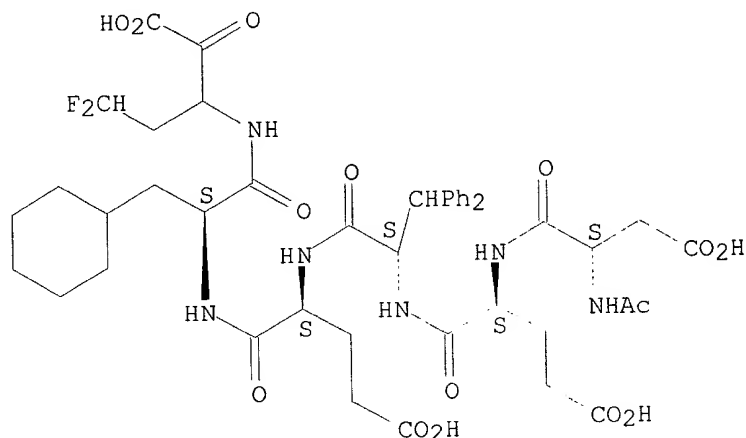
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L13 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1999:795834 HCAPLUS
 DOCUMENT NUMBER: 132:36034
 TITLE: Preparation of peptide inhibitors of hepatitis C virus
 NS3 protease
 INVENTOR(S): Matassa, Victor; Narjes, Frank; Koehler, Konrad;
 Ontoria, Jesus; Poma, Marco; Marchetti, Antonella
 PATENT ASSIGNEE(S): Istituto Di Ricerche Di Biologia Molecolare P
 Angeletti S.p.A., Italy
 SOURCE: PCT Int. Appl., 121 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964442	A1	19991216	WO 1999-GB1824	19990609
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9942798	A1	19991230	AU 1999-42798	19990609
AU 754773	B2	20021121		
EP 1084137	A1	20010321	EP 1999-955475	19990609
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE			
PRIORITY APPLN. INFO.:			GB 1998-12523	A 19980610
			WO 1999-GB1824	W 19990609
AB	Fluorinated oligopeptides Y-B-A-X or Y-B-A'-X' [A is an amino acid residue NHCH(CH ₂ CHF ₂)(CH ₂) _m CO and A' is NHCHR ₁ (CH ₂) _m CO (m = 0, 1; R ₁ is a fluorine-substituted hydrocarbyl side chain); B is a naturally or non-naturally occurring amino acid residue NHCHR ₂ CO (R ₂ is a nonpolar or polar but uncharged side chain or is a side chain contg. an acidic functionality); X = CO ₂ R ₈ , H, OR ₈ , CF ₃ , CONR ₉ R ₁₀ , NHSO ₂ R ₂₅ , or certain 5-membered heterocyclic groups (R ₈ , R ₉ , R ₁₀ , R ₂₅ = H, alkyl, alkenyl, aryl, aralkyl); X' = NHSO ₂ N ₂₅ ; Y = Z-F-E-D-C (C is a natural or non-natural amino acid residue having non-polar, polar but uncharged, or acidic side chains; D, E, and F may be absent or represent a natural or non-natural amino acid; Z is absent, H, or R ₇ CO which forms an amide, urethane, or urea linkage with the nitrogen atom to which it is attached) or R ₁₃ CO (R ₁₃ is an aliph. or arom. group contg. 1-25 carbon atoms, 0-5 oxygen atoms, 0-3 nitrogen atoms, 0-2 sulfur atoms, and up to 9 other heteroatoms)] were prepd. as inhibitors of hepatitis C virus NS3 protease. Thus, Ac-Asp-Glu-Met-Glu-Glu-NHCH(CH ₂ CHF ₂)CO ₂ H-(S), prepd. by coupling of (S)-tert-Bu 2-amino-4,4-difluorobutanoate hydrochloride with protected pentapeptide, showed IC ₅₀ for inhibition of NS3 protease.			
IT	252355-88-7P 252355-89-8P 252355-90-1P RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (prepn. of peptide inhibitors of hepatitis C virus NS3 protease)			

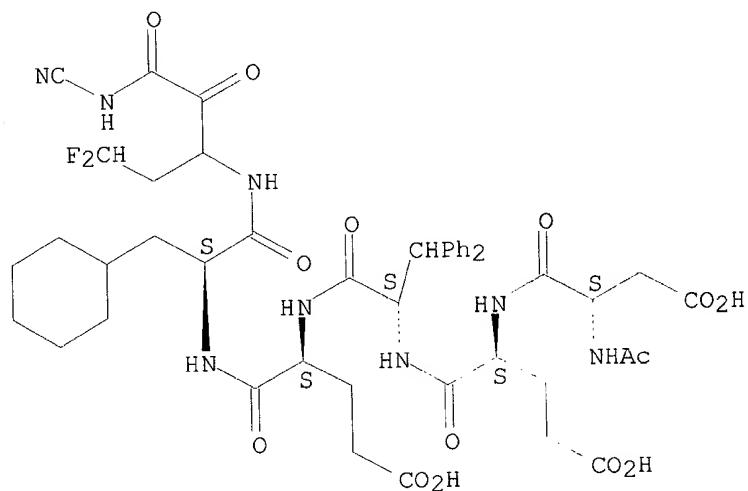
RN 252355-88-7 HCAPLUS
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Absolute stereochemistry.



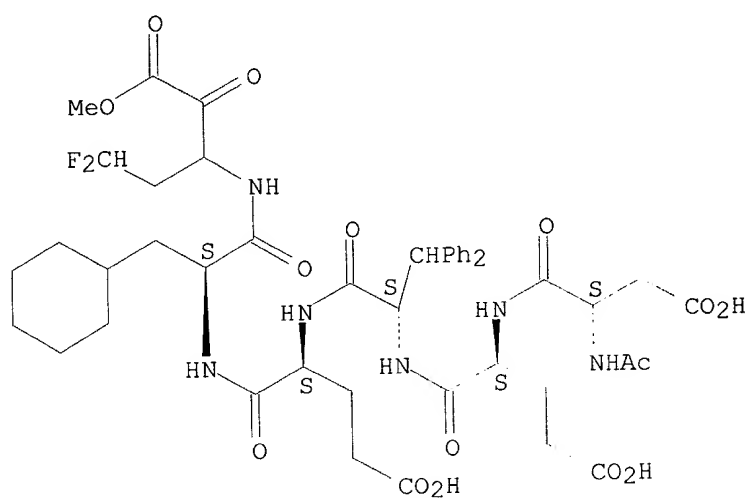
RN 252355-89-8 HCAPLUS
 CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-N-[3-(cyanoamino)-1-(2,2-difluoroethyl)-2,3-dioxopropyl]-3-cyclohexyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 252355-90-1 HCAPLUS
 CN L-Alaninamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-.beta.-phenyl-L-phenylalanyl-L-.alpha.-glutamyl-3-cyclohexyl-N-[1-(2,2-difluoroethyl)-3-methoxy-2,3-dioxopropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

3

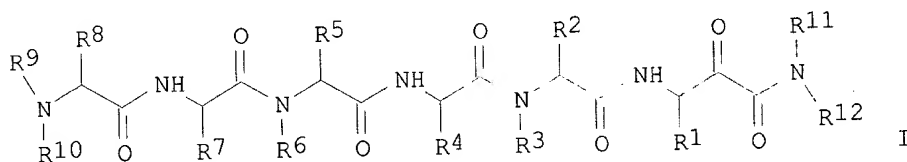
THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs 113 13

L13 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1999:760024 HCAPLUS
 DOCUMENT NUMBER: 132:93653
 TITLE: Preparation of .alpha.-ketoamide peptides as antiviral
 HCV proteinase inhibitors
 INVENTOR(S): Hurst, David Nigel; Jones, Philip Stephen; Kay, Paul
 Brittain; Raynham, Tony Michael; Wilson, Francis
 Xavier
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.
 SOURCE: Fr. Demande, 130 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2778406	A1	19991112	FR 1999-5650	19990504
US 6187905	B1	20010213	US 1999-305030	19990504
IT 1312558	B1	20020422	IT 1999-MI950	19990504
GB 2338482	A1	19991222	GB 1999-10384	19990505
ES 2165269	A1	20020301	ES 1999-918	19990505
JP 11349597	A2	19991221	JP 1999-125419	19990506
DE 19920966	A1	20000113	DE 1999-19920966	19990506
			GB 1998-9664	A 19980506

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 132:93653
 GI



AB .alpha.-Ketoamide peptides I (R1 = alkyl, haloalkyl, cyanoalkyl, aralkyl, thioalkyl, heteroalkyl, alkenyl, alkynyl; R2 = alkyl, hydroxyalkyl, carboxyalkyl, aralkyl, aminocarbonylalkyl, cycloalkyl, arylalkoxyalkyl; R3, R6, R9 = independently H, alkyl; R2R3 = alkylidene; R4 = alkyl, hydroxyalkyl, cycloalkyl, carboxyalkyl, arylalkyl, arylalkoxyalkyl, thioalkyl, cyanoalkyl, alkenyl, aryl, heteroarylalkyl, arylsulfonylalkyl, acetamidothioalkyl, cycloalkyl; R5 = alkyl, hydroxyalkyl, thioalkyl, aralkyl, cyanoalkyl, thioalkyl, cycloalkyl, arylalkoxyalkyl, aryl, arylsulfonylguanidinoalkyl, heteroarylalkyl; R7 = H, alkyl, carboxyalkyl, hydroxyalkyl, arylalkyl, cycloalkyl, heteroarylalkyl, nitroguanidinoalkyl, thioalkyl, arylalkoxycarbonylalkyl, formamidoalkyl; R8 = alkyl, cycloalkyl, carboxyalkyl, arylalkoxyalkyl, mercaptoalkyl, aryl, nitroguanidinoalkyl, thioalkyl, formamidoalkyl; R8R9 = sulfur-contg, trimethylene; R10 = alkyl, alkoxyalkylcarbonyl, acyl; R11, R12 = independently H, alkyl, aryl, arylalkyl, cycloalkyl, alkoxy, OH) were prep'd. as HCV proteinase inhibitors and antiviral agents.
 3(RS)-[N-[N-[N-[N-(3-carboxypropionyl)-L-.alpha.-aspartyl]-L-.alpha.-

AUDET 09/909,062

glutamyl]-2-methyl-L-phenylalanyl]-3-methyl-L-valyl]-L-leucyl]amino]-5,5,5-trifluoro-N-[1(S)-2-naphthylethyl]-2-oxovaleramide was prepd. as antiviral HCV proteinase inhibitor (EC50 = 0.004 $\mu\text{mol/L}$).

=> d occ 113 13

L13 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2003 ACS
FIELD COUNT
IT 196

=> d ibib abs hitstr l13 14

L13 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:126925 HCAPLUS

DOCUMENT NUMBER: 130:168666

TITLE: Preparation of peptide analogs as hepatitis C inhibitors

INVENTOR(S): Llinas-Brunet, Montse; Bailey, Murray Douglas; Halmos, Teddy; Poupert, Marc-Andre; Tsantrizos, Youla

PATENT ASSIGNEE(S): Boehringer Ingelheim (Canada) Ltd., Can.

SOURCE: PCT Int. Appl., 122 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9907734	A2	19990218	WO 1998-CA764	19980810
WO 9907734	A3	19990520		
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9888466	A1	19990301	AU 1998-88466	19980810
EP 1012180	A2	20000628	EP 1998-939997	19980810
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
US 6143715	A	20001107	US 1998-131433	19980810
JP 2001512744	T2	20010828	JP 2000-506236	19980810
NZ 503263	A	20021025	NZ 1998-503263	19980810
PRIORITY APPLN. INFO.:			US 1997-55247P P	19970811
			WO 1998-CA764 W	19980810

OTHER SOURCE(S): MARPAT 130:168666

AB Peptides B[NHCHR6CO]a[NHCHR5CO]bNYCHR4CONHCHR3COWNHQ [B = acyl group; a and b are 0 or 1; R6 = carboxyalkyl; R5 = alkyl or carboxyalkyl; Y = H, alkyl; R3, R4 = alkyl, cycloalkyl; W is an amino acid residue such as proline; Q = ZR1C(:X)R13, where Z = CH, N; X = O, S; R1 = H, alkyl or alkenyl, both optionally substituted with thio or halo; R13 = H, CF3, CF2CF3, etc.] were prepd. as hepatitis C virus inhibitors. Thus, Ac-Asp-D-Glu-Ile-Val-Pro[(4R)OBn]-NHPrCOCF2CF3, prepd. by step-wise couplings in soln., showed IC50 = 0.21 .mu.M in the NS3 protease/NS4A cofactor peptide radiometric assay.

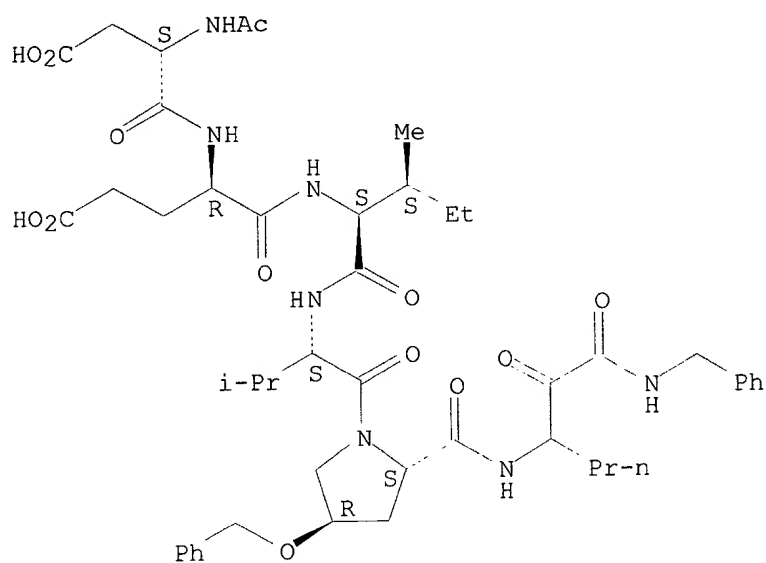
IT 220440-36-8P 220440-45-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of peptide analogs as hepatitis C inhibitors)

RN 220440-36-8 HCAPLUS

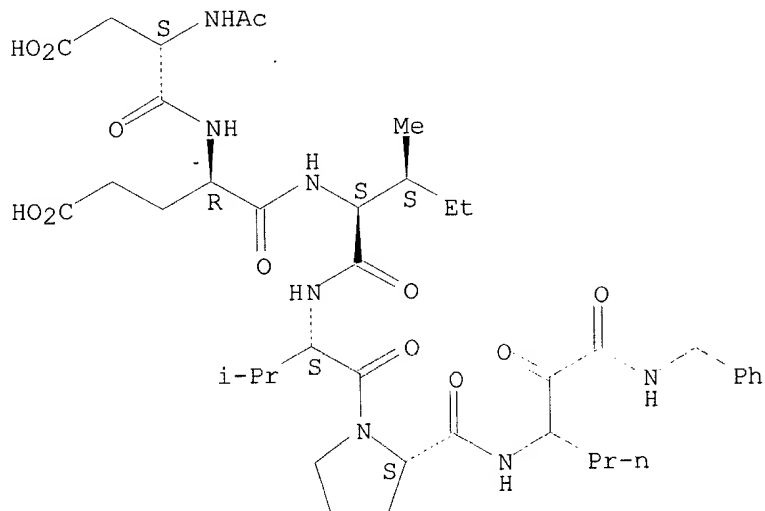
CN L-Prolinamide, N-acetyl-L-.alpha.-aspartyl-D-.alpha.-glutamyl-L-isoleucyl-L-valyl-N-[1-[oxo[(phenylmethyl)amino]acetyl]butyl]-4-(phenylmethoxy)-, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 220440-45-9 HCAPLUS
 CN L-Proteinamide, N-acetyl-L-.alpha.-aspartyl-D-.alpha.-glutamyl-L-isoleucyl-L-valyl-N-[1-[oxo[(phenylmethyl)amino]acetyl]butyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d ibib abs hitstr 113 15

L13 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:709961 HCAPLUS

DOCUMENT NUMBER: 130:66781

TITLE: Studies on the C-terminal of hexapeptide inhibitors of the hepatitis C virus serine protease

AUTHOR(S): Llinas-Brunet, Montse; Bailey, Murray; Ddziel, Robert; Fazal, Gulrez; Gorys, Vida; Goulet, Sylvie; Halmos, Ted; Maurice, Roger; Poirier, Martin; Poupart, Marc-Andre; Rancourt, Jean; Thibeault, Diane; Wernic, Dominik; Lamarre, Daniel

CORPORATE SOURCE: Bio-Mega Research Division, Boehringer Ingelheim (Canada) Ltd., Laval, H7S 2G5, Can.

SOURCE: Bioorganic & Medicinal Chemistry Letters (1998), 8(19), 2719-2724

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Replacement of the C-terminal carboxylic acid functionality of peptide inhibitors of hepatitis C virus (HCV) NS3 protease (complexed with NS4A peptide cofactor) by activated carbonyl groups does not produce any substantial increase in potency. These latter inhibitors also inhibit a variety of other serine and cysteine proteases whereas the carboxylic acids are specific. Norvaline was identified as a chem. stable replacement for the P1 residue of Ac-Asp-Asp-Ile-Val-Pro-Cys-OH which was also compatible with activated carbonyl functionalities.

IT 218275-79-7P 218275-83-3P

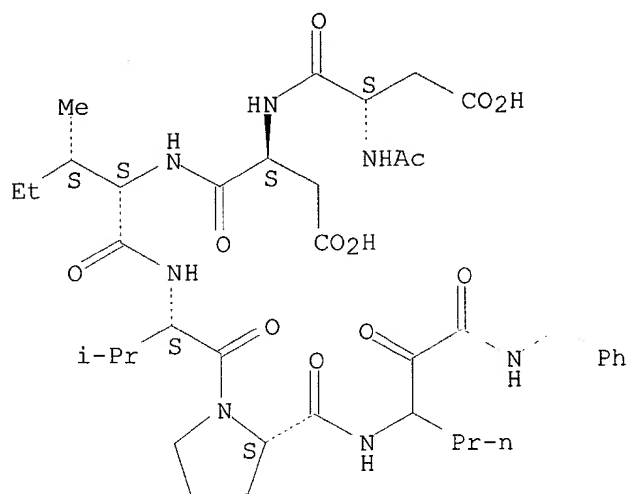
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(prepn. and structure-activity of C-terminal modifications of hepatitis C virus serine protease hexapeptide inhibitors)

RN 218275-79-7 HCAPLUS

CN L-Prolinamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-aspartyl-L-isoleucyl-L-valyl-N-[1-[oxo[(phenylmethyl)amino]acetyl]butyl]- (9CI) (CA INDEX NAME)

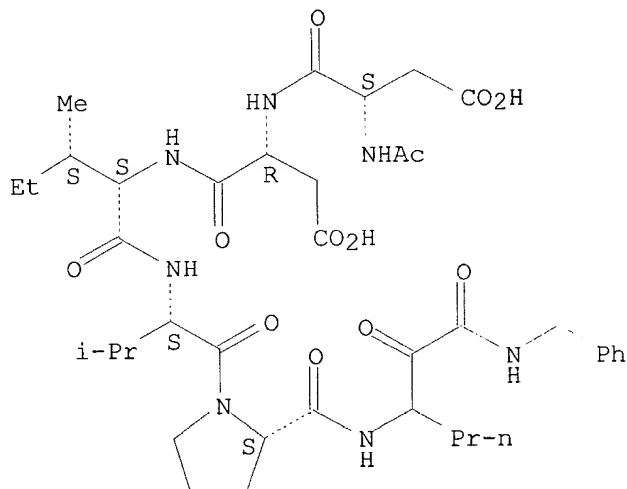
Absolute stereochemistry.



RN 218275-83-3 HCAPLUS

CN L-Prolinamide, N-acetyl-L-.alpha.-aspartyl-D-.alpha.-aspartyl-L-isoleucyl-L-valyl-N-[1-[oxo[(phenylmethyl)amino]acetyl]butyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

32

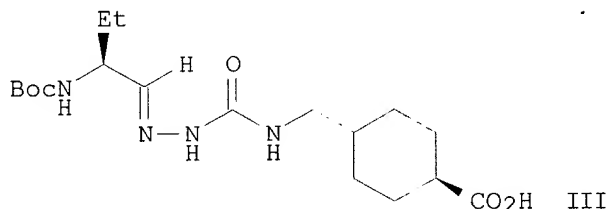
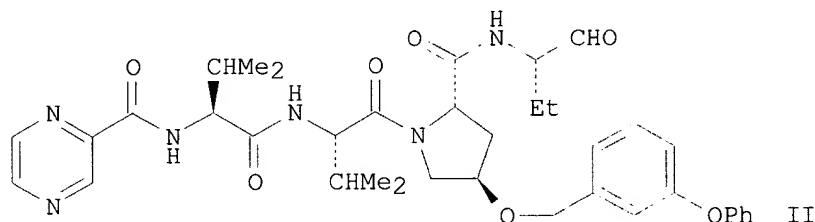
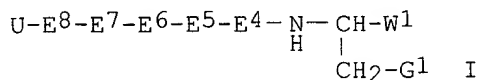
THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib abs hitstr l13 16

L13 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1998:268513 HCAPLUS
 DOCUMENT NUMBER: 128:321945
 TITLE: Preparation of peptide analogs as inhibitors of serine proteases, particularly hepatitis C virus NS3 protease
 INVENTOR(S): Tung, Roger D.; Harbeson, Scott L.; Deininger, David D.; Murcko, Mark A.; Bhisetti, Govinda Rao; Farmer, Luc J.
 PATENT ASSIGNEE(S): Vertex Pharmaceuticals Inc., USA; Tung, Roger D.; Harbeson, Scott L.; Deininger, David D.; Murcko, Mark A.; Bhisetti, Govinda Rao; Farmer, Luc J.
 SOURCE: PCT Int. Appl., 128 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
→ WO 9817679	A1	19980430 *	WO 1997-US18968	19971017
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
ZA 9709327	A	19980511 -	ZA 1997-9327	19971017
AU 9851477	A1	19980515	AU 1998-51477	19971017
AU 719984	B2	20000518		
EP 932617	A1	19990804	EP 1997-946273	19971017
EP 932617	B1	20020116		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9712544	A	19991019	BR 1997-12544	19971017
CN 1238780	A	19991215	CN 1997-180151	19971017
NZ 335276	A	20000929	NZ 1997-335276	19971017
JP 2001502694	T2	20010227	JP 1998-519568	19971017
EP 1136498	A1	20010926	EP 2001-109433	19971017
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AP 1019	A	20011016	AP 1999-1512	19971017
W: GH, KE, LS, MW, SD, SZ, UG, ZW				
AT 212037	E	20020215	AT 1997-946273	19971017
ES 2169880	T3	20020716	ES 1997-946273	19971017
NO 9901832	A	19990617	NO 1999-1832	19990416
→ US 6265380	B1	20010724	US 1999-293247	19990416
KR 2000049263	A	20000725	KR 1999-703372	19990417
→ US 2002032175	A1	20020314	US 2001-875390	20010606
PRIORITY APPLN. INFO.:				
US 1996-28290P P 19961018				
EP 1997-946273 A3 19971017				
WO 1997-US18968 W 19971017				
US 1999-293247 A 19990416				

OTHER SOURCE(S): MARPAT 128:321945
 GI



AB The present invention relates to compds. I [G1 = SH, OH, SMe, alkenyl, alkynyl, CF₃, C1-2 alkoxy, C1-2 alkylthio, (un)substituted C1-3 alkyl; W1 = COCF₂CH₂N(G4)U, CHO, COG₂, COCF₂CF₃, COCOG₂, COCO₂G₂, B(Q1)₂; G₂ = alkyl, aryl, aralkyl, (un)substituted mono-, bi-, or tricyclic heterocycle; G₄ = alky, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, aryl, aralkyl, aralkenyl, etc.; Q1 = OH, alkoxy, aryloxy, or Q1-Q1 form a 5-7 membered ring; U = H, G₉CO, G₉SO₂, G₉COCO, (G₉)₂NCOCO, (G₉)₂NSO₂, (G₉)₂NCO, G₉O₂C; G₉ = H, alkyl, carboxyalkyl, alkenyl, aryl, aralkyl, aralkenyl, cycloalkyl, heterocycloalkyl, etc; or G₉-G₉ form a ring; E₄ = bond, .alpha.-amino acid residue, heterocyclic amino acid; E₅-E₈ = independently bond, amino acid residue; 1-2 peptide bonds between E₅-E₈ may be reduced], methods and pharmaceutical compns. for inhibiting proteases, particularly serine proteases, and more particularly HCV NS3 proteases. The compds., and the compns. and methods that utilize them, can be used, either alone or in combination to inhibit viruses, particularly HCV virus. Thus, peptide aldehyde II was prepd. using solid-phase methods on a benzhydrylamine resin and tert-butoxycarbonyl (Boc) and 9-fluorenylmethoxycarbonyl (Fmoc) protection starting from protected hydrazine III. Nearly 200 compds. I were prepd. and tested for hepatitis C virus NS3 protease inhibitory activity, with II exhibiting K_i <1 .mu.M in an in vitro assay.

IT 207001-61-4P 207001-82-9P 207001-83-0P
207001-84-1P 207001-85-2P 207001-86-3P
207001-87-4P 207001-88-5P 207001-89-6P

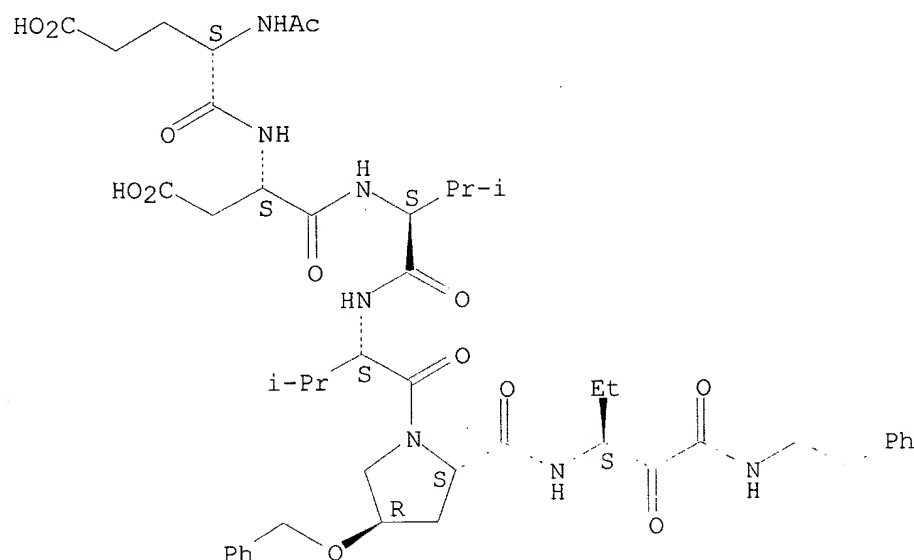
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT

(Reactant or reagent); USES (Uses)
(prep. of peptide analogs as hepatitis C virus NS3 protease inhibitors)

RN 207001-61-4 HCAPLUS

CN L-Prolinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-aspartyl-L-valyl-L-valyl-N-[(1S)-1-ethyl-2,3-dioxo-3-[(2-phenylethyl)amino]propyl]-4-(phenylmethoxy)-, (4R)- (9CI) (CA INDEX NAME)

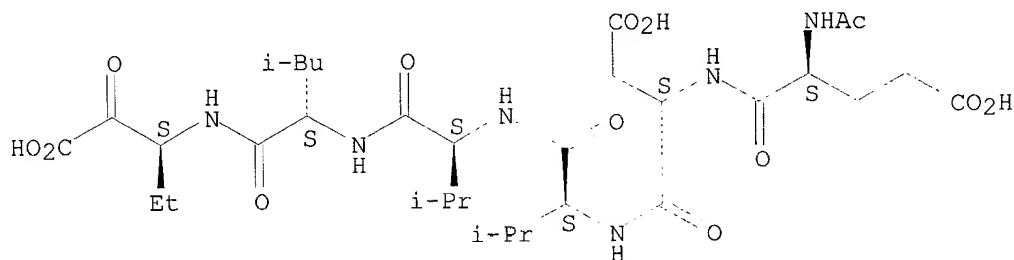
Absolute stereochemistry.



RN 207001-82-9 HCAPLUS

CN L-Leucinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-aspartyl-L-valyl-L-valyl-N-[(1S)-1-(carboxycarbonyl)propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

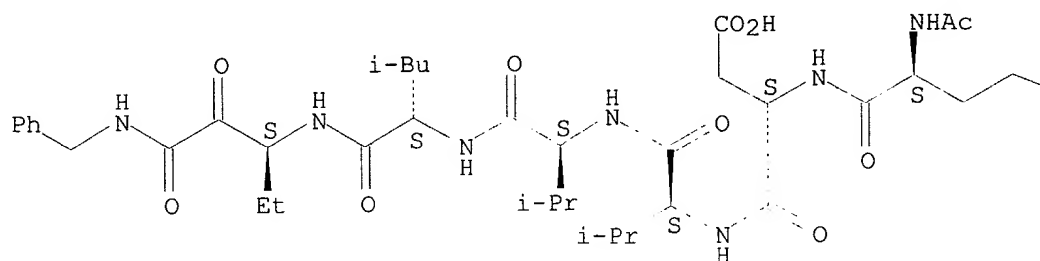


RN 207001-83-0 HCAPLUS

CN L-Leucinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-aspartyl-L-valyl-L-valyl-N-[(1S)-1-ethyl-2,3-dioxo-3-[(phenylmethyl)amino]propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

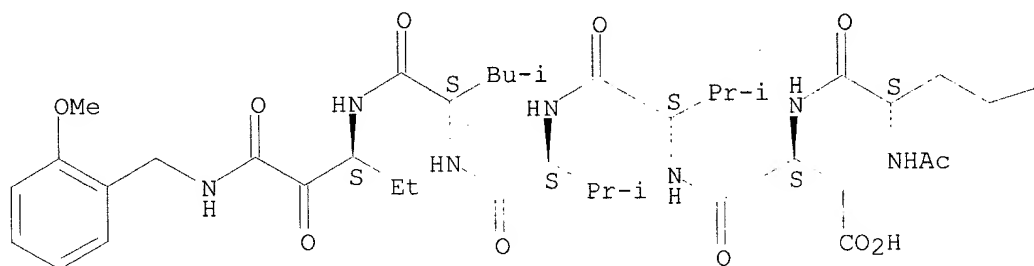
—CO₂H

RN 207001-84-1 HCAPLUS

CN L-Leucinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-aspartyl-L-valyl-L-valyl-N-[(1S)-1-ethyl-3-[[(2-methoxyphenyl)methyl]amino]-2,3-dioxopropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

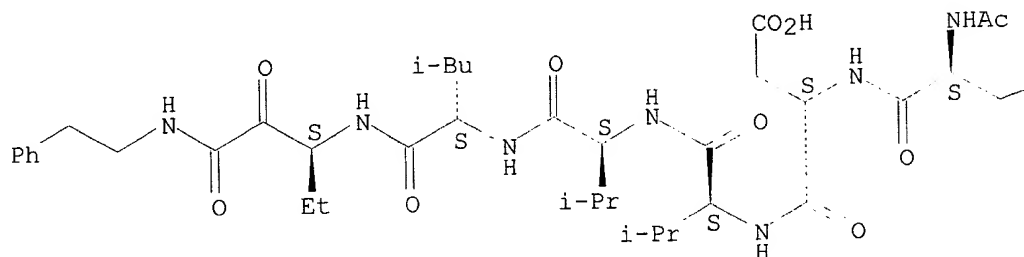
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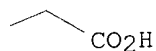
CN L-Leucinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-aspartyl-L-valyl-L-valyl-N-[(1S)-1-ethyl-2,3-dioxo-3-[(2-phenylethyl)amino]propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



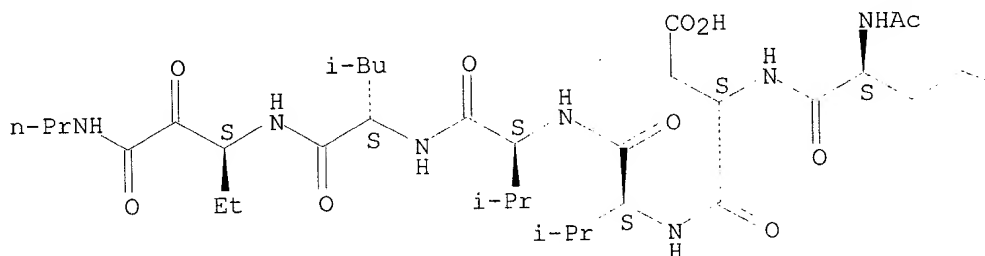
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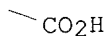
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Absolute stereochemistry.

PAGE 1-A



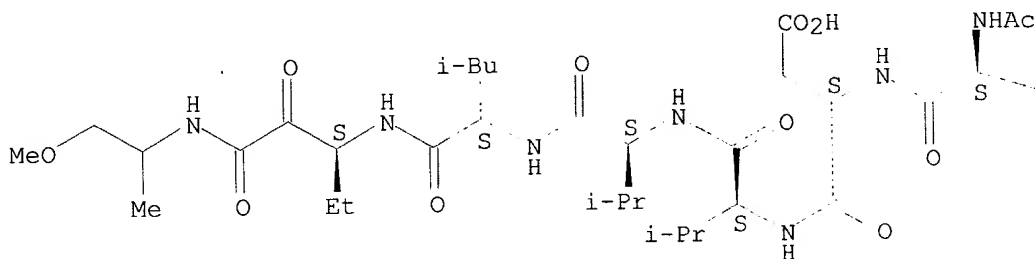
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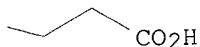
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 CN L-Leucinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-aspartyl-L-valyl-L-valyl-N-[(1S)-1-ethyl-3-[(2-methoxy-1-methylethyl)amino]-2,3-dioxopropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

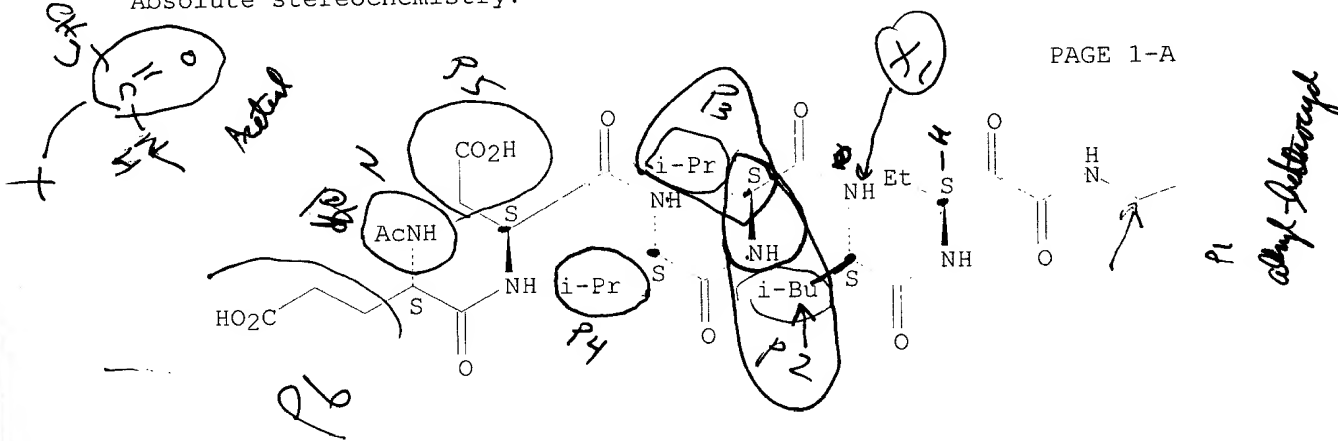


PAGE 1-B



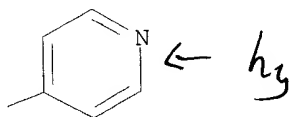
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(CA INDEX NAME)

Absolute stereochemistry.



PAGE 1-A

PAGE 1-B

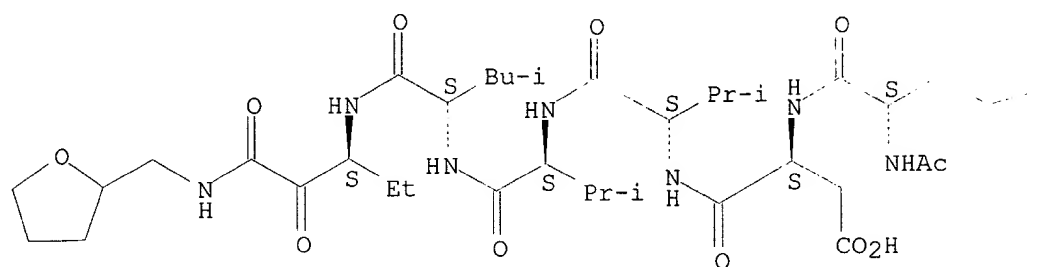


S,R stereochem

RN 207001-89-6 HCAPLUS
CN L-Leucinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-aspartyl-L-valyl-L-valyl-N-[(1S)-1-ethyl-2,3-dioxo-3-[[[tetrahydro-2-furanyl)methyl]amino]propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—CO₂H

=> d ibib abs hitstr 113 17

L13 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:195736 HCAPLUS

DOCUMENT NUMBER: 126:235032

TITLE: Design of a Synthetic Nuclease: DNA Hydrolysis by a Zinc-Binding Peptide Tethered to a Rhodium Intercalator

AUTHOR(S): Fitzsimons, Marilena P.; Barton, Jacqueline K.

CORPORATE SOURCE: Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, 91125, USA

SOURCE: Journal of the American Chemical Society (1997), 119(14), 3379-3380
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A short peptide, Asp-Pro-Asp-Glu-Leu-Glu-His-Ala-Ala-Lys-His-Glu-Ala-Ala-Ala-Lys-CONH₂, which binds stoichiometric zinc ion, has been tethered to the DNA-intercalating metal complex Rh(phi)2bpy' (phi = phenanthrenequinone diimine, bpy' = 4-butyric acid-4-methyl-2,2'-bipyridine) to construct a synthetic DNase. In this combination of DNA-binding and reactive moieties, the rhodium intercalator delivers the appended peptide with coordinated Zn²⁺ for reaction with DNA. In the presence of Zn²⁺, the Rh(phi)2bpy'-peptide conjugate at .mu.M concn. is found to cleave supercoiled pBR322 DNA and a 17-base pair oligonucleotide duplex under mild conditions. DNA hydrolysis requires the rhodium intercalator, the peptide, and Zn²⁺. The rate const. for the cleavage of pBR322 DNA by Rh(phi)2bpy'-peptide at pH 6.0 is 2.5 +/- 0.2.times.10⁻⁵ s⁻¹. Product anal. by high resolu. PAGE of cleaved oligonucleotide fragments shows 3'-hydroxyl termini exclusively. These results indicate a stereospecific, hydrolytic DNA cleavage reaction by the synthetic complex and establish a new route to the design of synthetic DNA endonucleases.

IT 188473-44-1

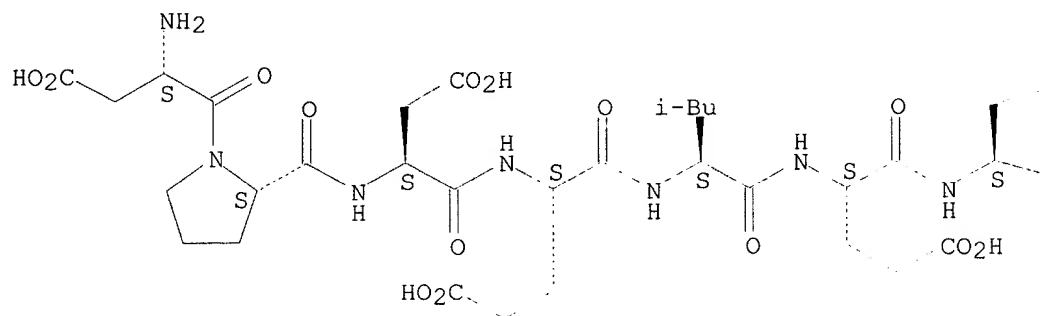
RL: RCT (Reactant); RACT (Reactant or reagent)
(design of a synthetic nuclease, DNA hydrolysis by a zinc-binding peptide tethered to a rhodium intercalator)

RN 188473-44-1 HCAPLUS

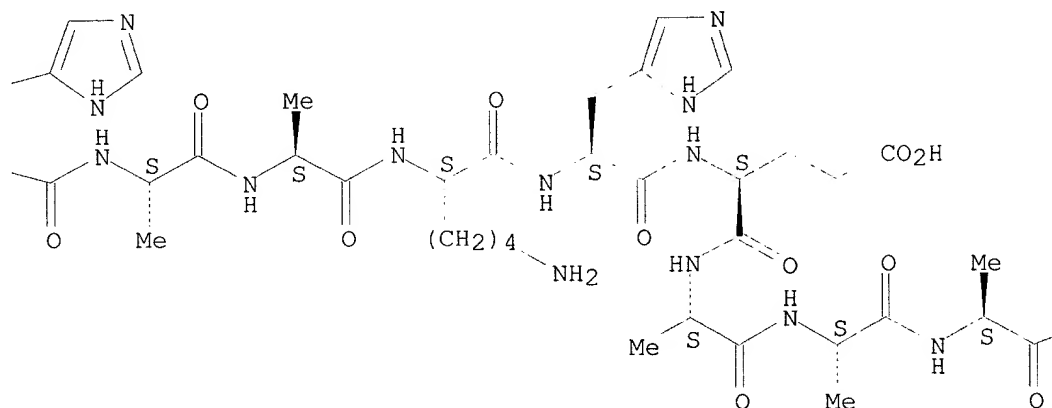
CN L-Lysinamide, L-.alpha.-aspartyl-L-prolyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-L-leucyl-L-.alpha.-glutamyl-L-histidyl-L-alanyl-L-alanyl-L-lysyl-L-histidyl-L-.alpha.-glutamyl-L-alanyl-L-alanyl-L-alanyl- (9CI) (CA INDEX NAME)

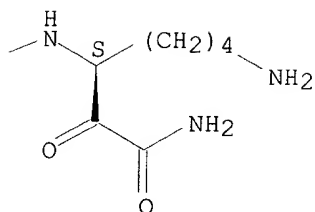
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



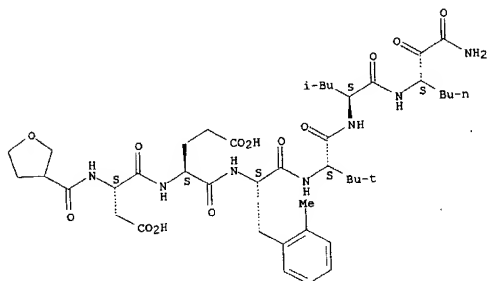


d scan of cpe for #13
of L13

=> d scan

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-[(tetrahydro-3-furanyl)carbonyl]-L-.alpha.-aspartyl-L-.alpha.-
glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
(aminooxoacetyl)pentyl]- (9CI)
SQL 6
MF C43 H65 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK
Absolute stereochemistry.

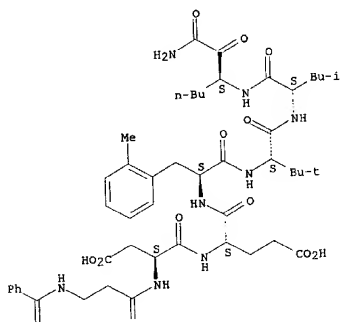


HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):195

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-benzoyl-.beta.-alanyl-L-.alpha.-aspartyl-L-.alpha.-
glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
(aminooxoacetyl)pentyl]- (9CI)
SQL 7
MF C48 H68 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK
Absolute stereochemistry.

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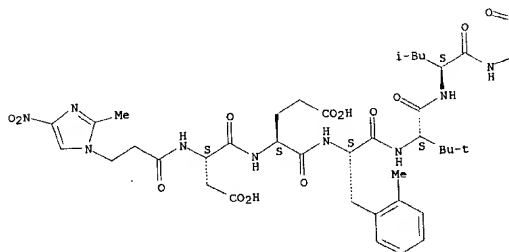
PAGE 2-A



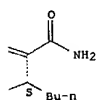
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-[3-(2-methyl-4-nitro-1H-imidazol-1-yl)-1-oxopropyl]-L-.alpha.-
aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-
valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
SQL 5
MF C45 H66 N10 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK
Absolute stereochemistry.

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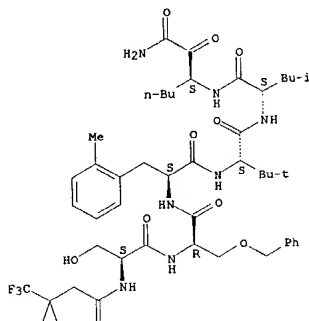


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(4,4,4-trifluoro-3-hydroxy-3-methyl-1-oxobutyl)-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C47 H68 F3 N7 O11

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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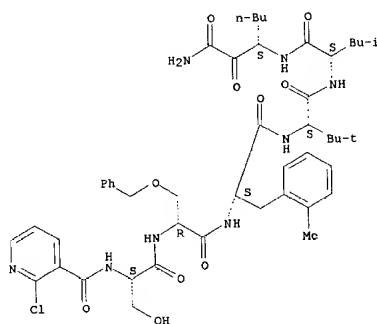
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(2-chloro-3-pyridinyl)carbonyl]-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C48 H65 Cl N9 O10

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

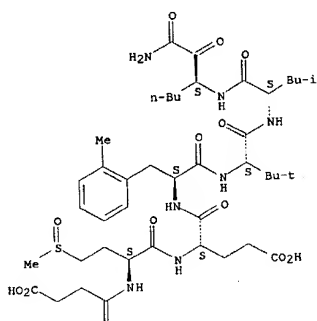


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, (2S)-2-[(3-carboxy-1-oxopropyl)amino]-4-(methylsulfinyl)butanoyl-L-alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C43 H67 N7 O13 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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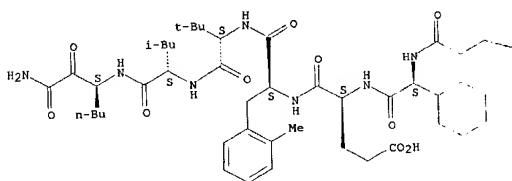
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, (2S)-N-(3-carboxy-1-oxopropyl)-2-cyclohexylglycyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C46 H71 N7 O12

Absolute stereochemistry.

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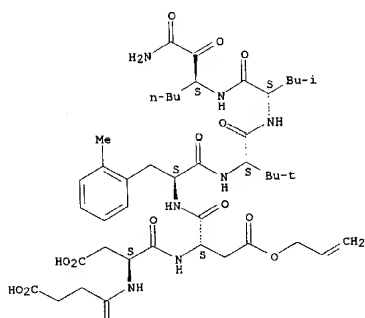
PAGE 1-B

CO₂H

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 aspartyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]-, 2-(2-propenyl) ester (9CI)
 SQL 6
 MF C44 H65 N7 O14

Absolute stereochemistry.

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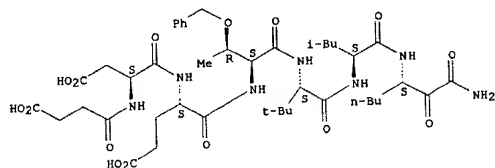


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-O-(phenylmethyl)-L-threonyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C43 H65 N7 O15

Absolute stereochemistry.

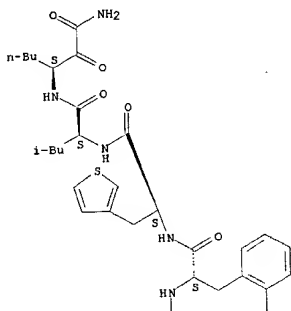


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-(3-thienyl)-L-alanyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 5
 MF C43 H59 N7 O14 S

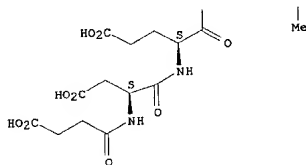
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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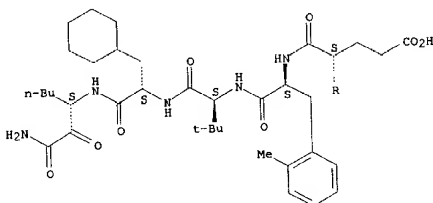
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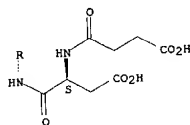
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Alaninamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]-3-cyclohexyl- (9CI)
 SQL 6
 MF C45 H67 N7 O14

Absolute stereochemistry.

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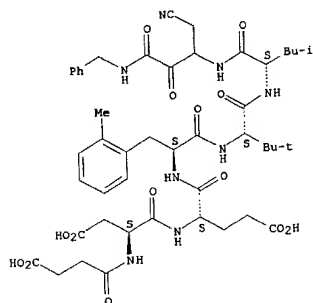


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[1-(cyanomethyl)-2,3-
 dioxo-3-[(phenylmethyl)amino]propyl]- (9CI)
 SQL 6

MF C47 H62 N8 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-[(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [(3-nitrophenyl)methyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-
 bis(1,1-dimethylethyl) ester (9CI)

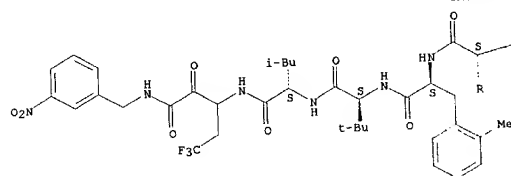
SQL 6

MF C59 H85 F3 N8 O16

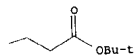
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

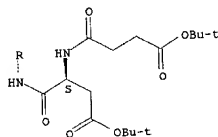
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-[(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [(1R)-1-(2-naphthalenyl)propyl]amino]-2,3-dioxo-1-(2,2,2-
 trifluoroethyl)propyl]-, bis(1,1-dimethylethyl) ester (9CI)

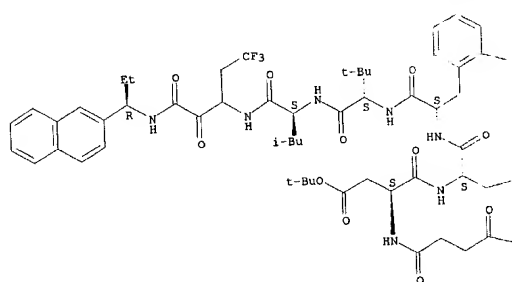
SQL 6

MF C65 H92 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

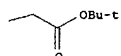
Absolute stereochemistry.

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Me



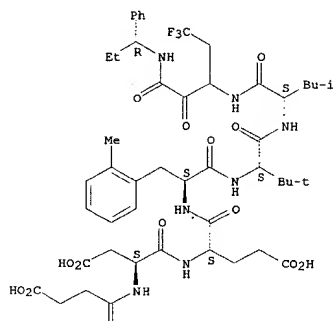
OBu-t

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(2,3-dioxo-3-[(1R)-1-
 phenylpropyl]amino)-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C49 H66 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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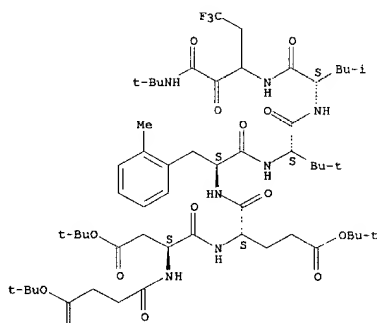


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [(1,1-dimethylethyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C56 H88 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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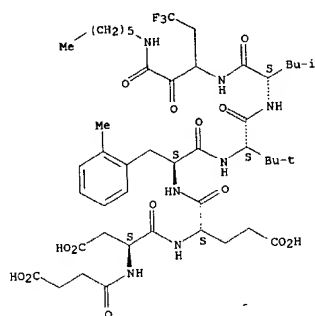


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-(hexylamino)-2,3-
 dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)

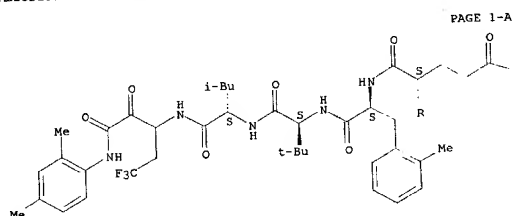
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L- α -
aspartyl-L- α -glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
[(2,4-dimethylphenyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-,
his(1,1-dimethylethyl) ester (9C1)

SQL 6
MF C60 H88 F3 N7 O14

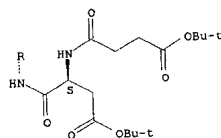
Absolute stereochemistry.



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— OBU-t

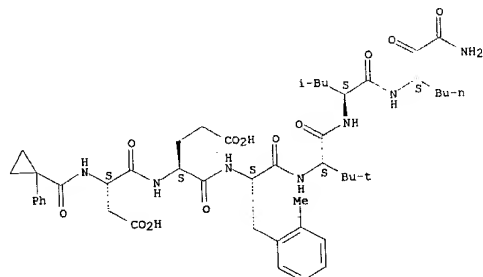
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-[(1-phenylcyclopropyl)carbonyl]-L-.alpha.-aspartyl-L-
.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
(aminooxocacetyl)pentyl]- (9CI)

SQL 6
MF C48 H67 N7 O12

Absolute stereochemistry.

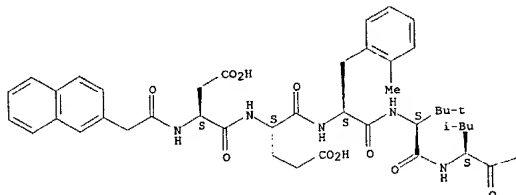


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(2-naphthalenylacetyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C50 H67 N7 O12

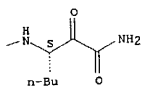
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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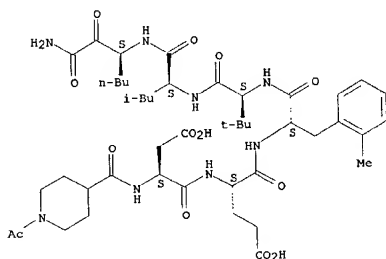
PAGE 1-B



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(1-acetyl-4-piperidiny) carbonyl]-L-.alpha.-aspartyl-L-.
 .alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 5
 MF C46 H70 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

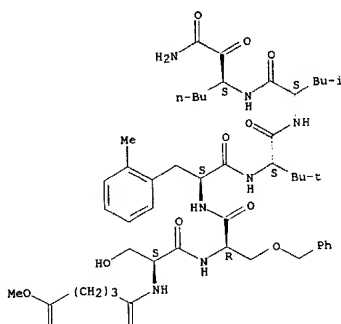


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(5-methoxy-1,5-dioxopentyl)-L-seryl-O-(phenylmethyl)-D-
 seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C48 H71 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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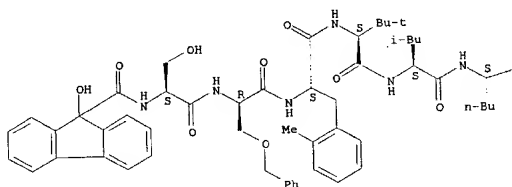


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(9-hydroxy-9H-fluoren-9-yl)carbonyl]-L-seryl-O-
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C56 H71 N7 O11

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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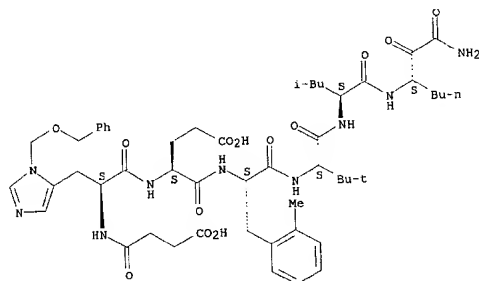
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-3-[(phenylmethoxymethyl)-L-
 histidyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-
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 SQL 6
 MF C52 H73 N9 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

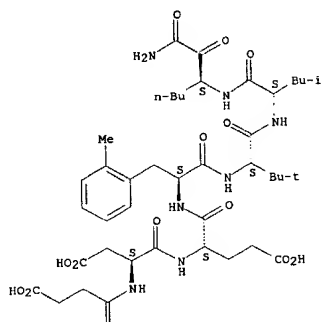


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C42 H63 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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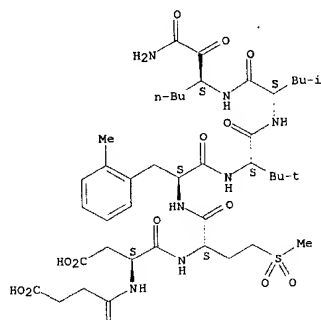
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-(2S)-2-amino-4-(methylsulfonyl)butanoyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C42 H65 N7 O14 S

Absolute stereochemistry.

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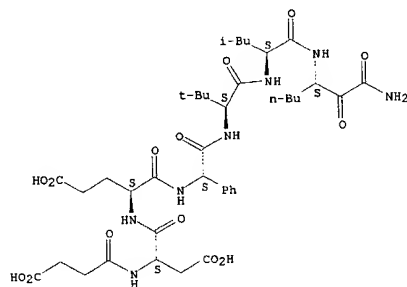
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-(2S)-2-phenylglycyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C40 H59 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

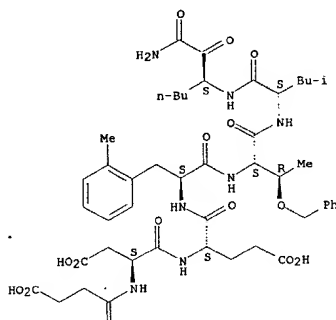


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-O-(phenylmethyl)-L-threonyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6

MF C47 H65 N7 O15

Absolute stereochemistry.

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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

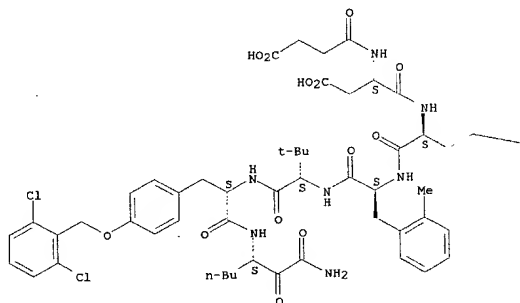
IN L-Tyrosinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-O-[(2,6-dichlorophenyl)methyl]- (9CI)

SQL 6

MF C52 H65 Cl2 N7 O15

Absolute stereochemistry.

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CO₂H

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-[oxo[(1S)-1-phenylpropyl]amino]acetyl]pentyl]- (9CI)

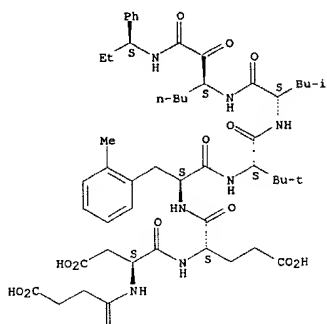
SQL 6

MF C51 H73 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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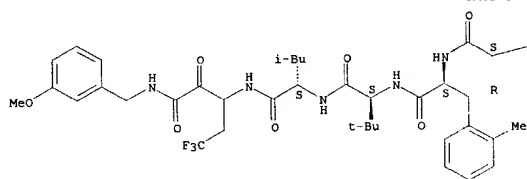


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [(3-methoxyphenyl)methyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-
 , bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C60 H88 F3 N7 O15

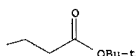
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

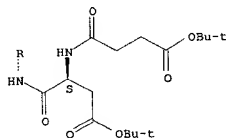
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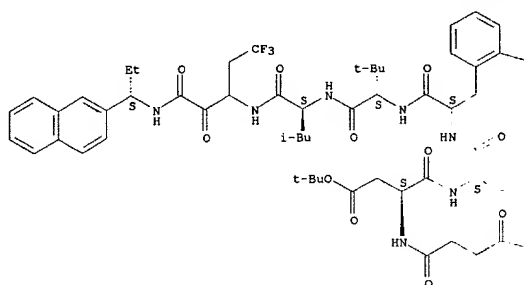


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [(1S)-1-(2-naphthalenyl)propyl]amino]-2,3-dioxo-1-(2,2,2-
 trifluoroethyl)propyl]-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C65 H92 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

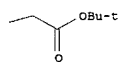
Absolute stereochemistry.

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PAGE 1-B

Me



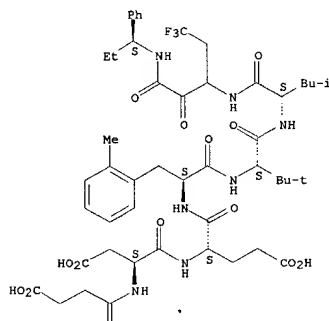
OBu-t

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[2,3-dioxo-3-[(1S)-1-
 phenylpropyl]amino]-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C49 H66 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



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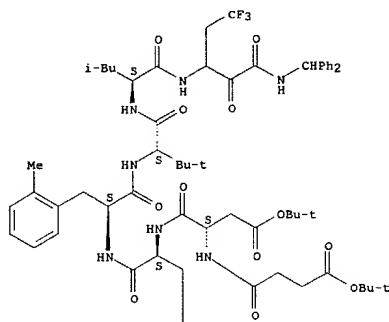


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [(diphenylmethyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C65 H90 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



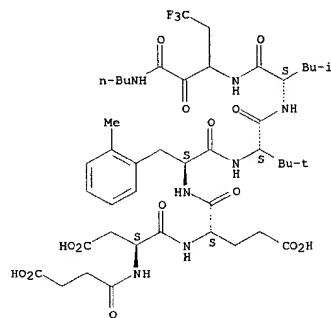
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(3-(butylamino)-2,3-
 dioxo-1-(2,2,2-trifluoroethyl)propyl)- (9CI)
 SQL 6
 MF C44 H64 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

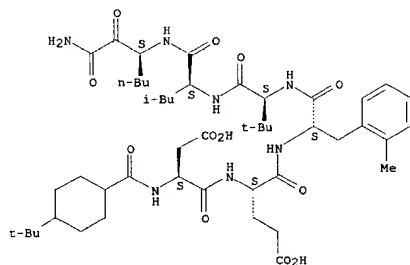
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[[4-[(1,1-dimethylethyl)cyclohexyl]carbonyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-
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 SQL 6
 MF C49 H77 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

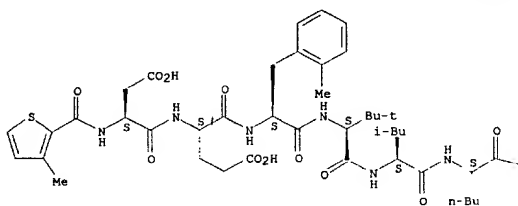


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(3-methyl-2-thienyl)carbonyl]-L-.alpha.-aspartyl-L-
 .alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C44 H63 N7 O12 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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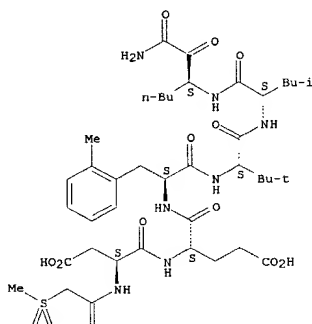


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C41 H63 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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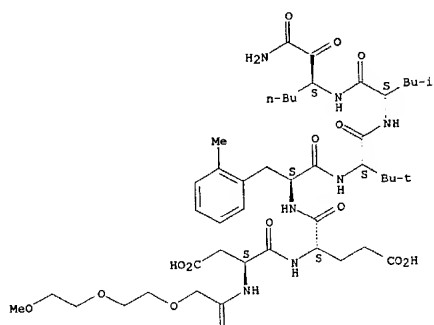


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 6
 MF C45 H71 N7 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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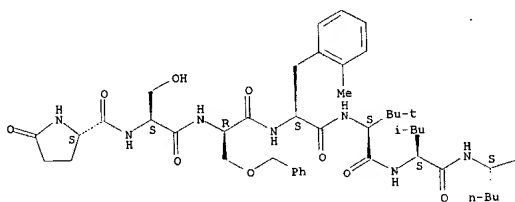
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, 5-oxo-L-prolyl-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 7
 MF C47 H68 N8 O11

Absolute stereochemistry.

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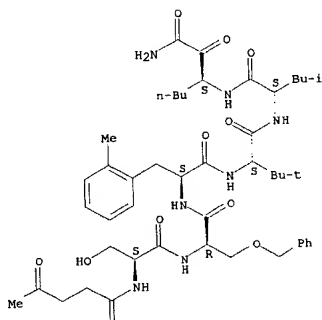


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(1,4-dioxopentyl)-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
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 MF C47 H69 N7 O11

RELATED SEQUENCES AVAILABLE WITH SEOLINK

Absolute stereochemistry.

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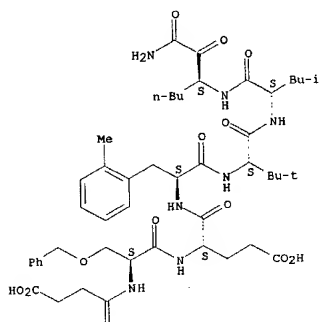


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-O-(phenylmethyl)-L-seryl-L-
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C48 H69 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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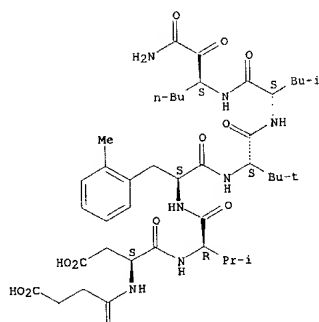


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (9CI)
 SQL 6
 MF C42 H65 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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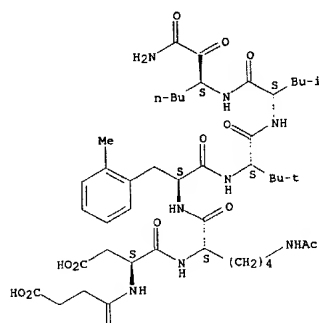


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-N6-acetyl-L-
 lysyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C45 H70 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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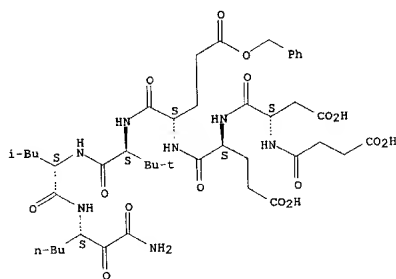


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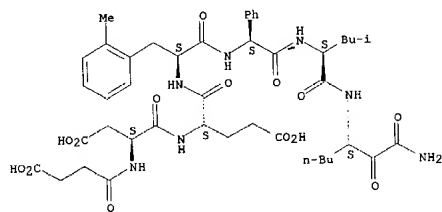
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl]-, 3-(phenylmethyl) ester (9CI)
 SQL 6
 MF C44 H65 N7 O16

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-(2S)-2-phenylglycyl-N-[(1S)-1-
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 SQL 6
 MF C44 H59 N7 O14

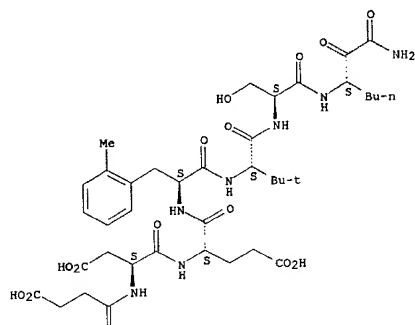
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 SQL 6
 MF C39 H57 N7 O15

Absolute stereochemistry.

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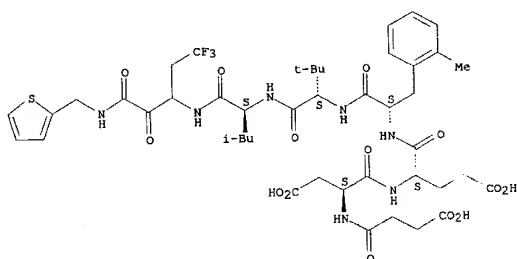
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(2,3-dioxo-3-[(2-
 thienylmethyl)amino]-1-(2,2,2-trifluoroethyl)propyl)]- (9CI)
 SQL 6
 MF C45 H60 F3 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

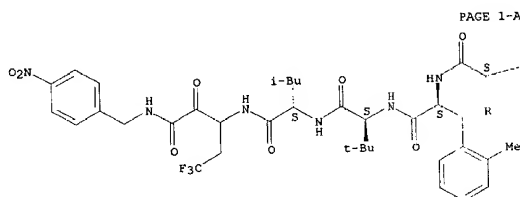
Absolute stereochemistry.



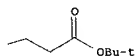
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 SQL 6
 MF C59 H85 F3 N8 O16

RELATED SEQUENCES AVAILABLE WITH SEQLINK

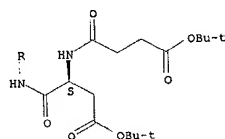
Absolute stereochemistry.



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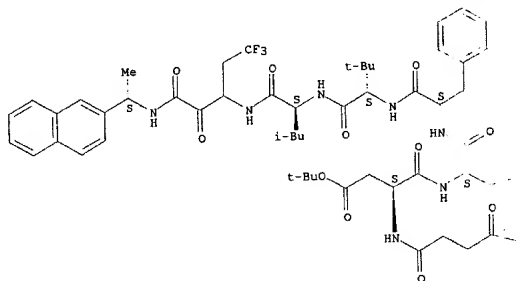


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-[(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 [(1S)-1-(2-naphthalenyl)ethyl]amino]-2,3-dioxo-1-(2,2,2-
 trifluoroethyl)propyl]-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C64 H90 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

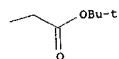
Absolute stereochemistry.

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Me



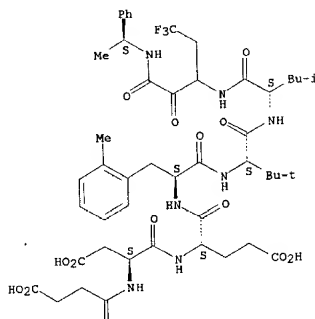
OBu-t

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[3-carboxy-1-oxopropyl]-L-.alpha.-aspartyl-L-.alpha.-
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 SQL 6
 MF C48 H64 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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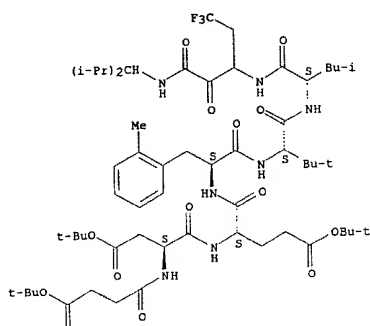


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-[(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 trifluoroethyl)propyl]-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C59 H94 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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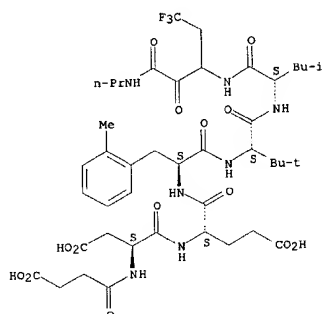
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-(2,3-dioxo-3-
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 SQL 6
 MF C43 H62 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

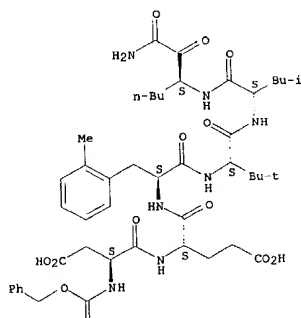


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(phenylmethoxy)carbonyl]-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C46 H65 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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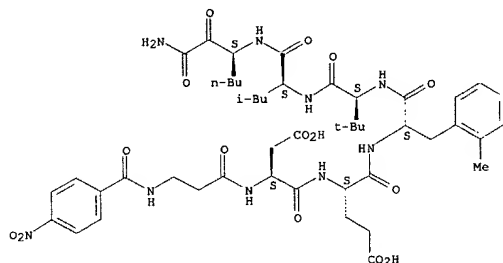
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(4-nitrobenzoyl)-.beta.-alaninyl-L-.alpha.-aspartyl-L-

Searched by Susan Hanley 305-4053

.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 7
 MF C48 H67 N9 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

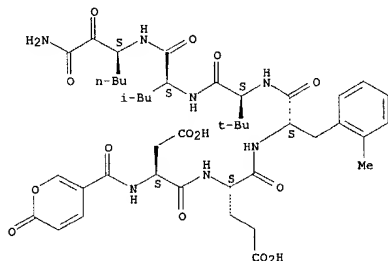
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(2-oxo-2H-pyran-5-yl)carbonyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C44 H61 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

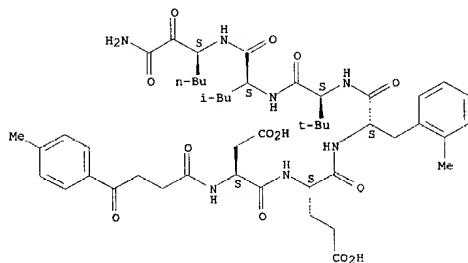
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 6
 MF C49 H69 N7 O13

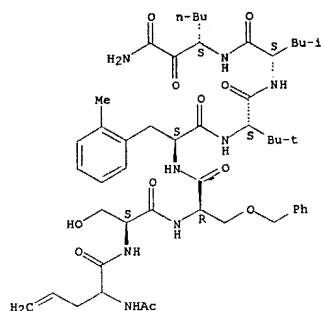
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 7
 MF C49 H72 N8 O11

Absolute stereochemistry.



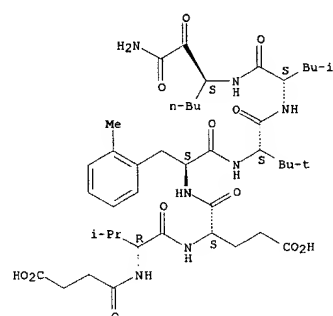
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-D-valyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6

MF C43 H67 N7 O12

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

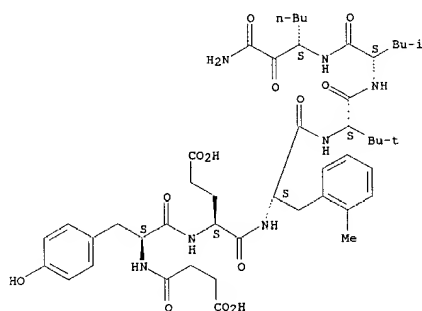
IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-tyrosyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6

MF C47 H67 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

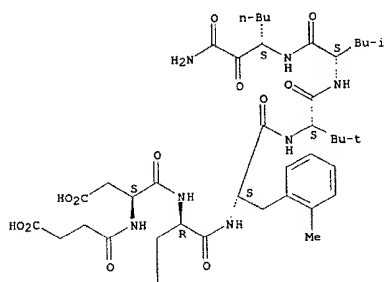
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SQL 6

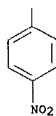
MF C46 H64 N8 O14

Absolute stereochemistry.

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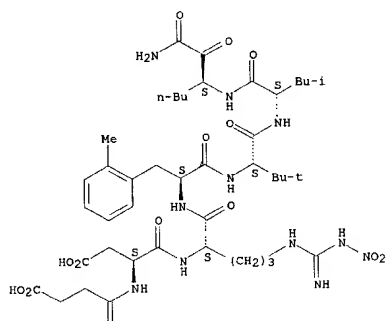


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-N5-[imino(nitroamino)methyl]-L-ornithyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C43 H67 N11 O14
 Absolute stereochemistry.

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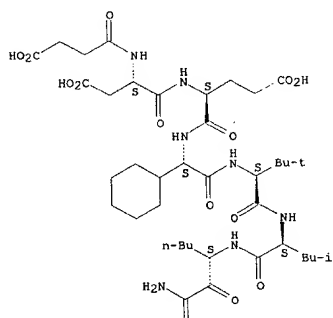


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-(2S)-2-cyclohexylglycyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C40 H65 N7 O14
 Absolute stereochemistry.

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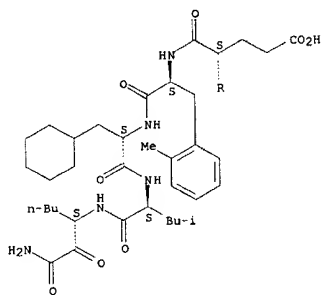
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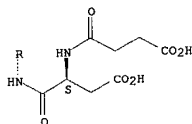
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 SQL 6
 MF C45 H67 N7 O14

Absolute stereochemistry.

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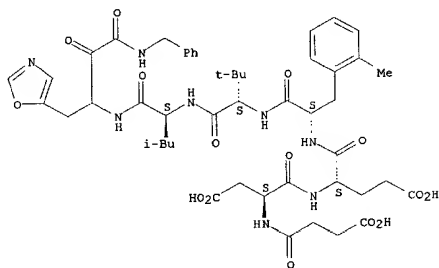
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 SQL 5
 MF C49 H64 N8 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

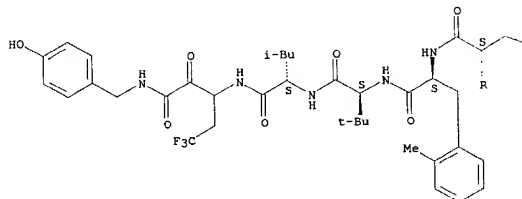


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 hydroxyphenyl)methyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-
 (9CI)
 SQL 6
 MF C47 H62 F3 N7 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

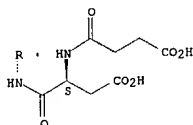
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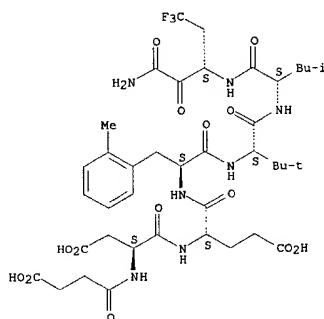
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-3-amino-2,3-
 dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C40 H56 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

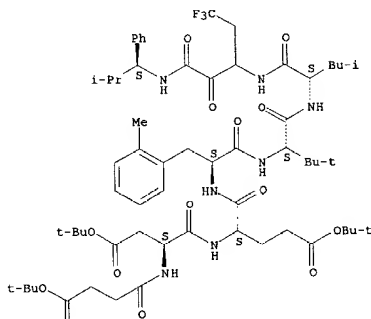


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [(1S)-2-methyl-1-phenylpropyl]amino]-2,3-dioxo-1-(2,2,2-
 trifluoroethyl)propyl]-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C62 H92 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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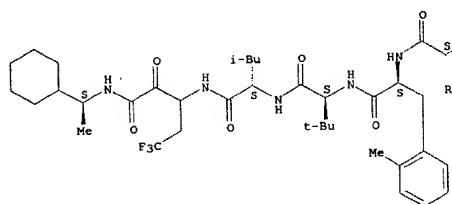


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[(1S)-1-
 cyclohexylethyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C48 H70 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

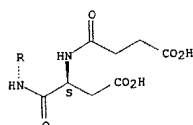
PAGE 1-A



PAGE 1-B

CO₂H

PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-(4-(1,1-dimethylethoxy)-1,4-dioxobutyl)-L-.alpha.-
aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
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bis(1,1-dimethylethyl) ester (9CI)

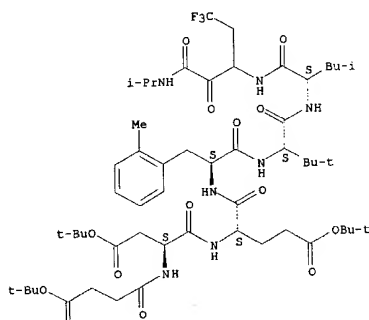
SQL 6

MF C55 H86 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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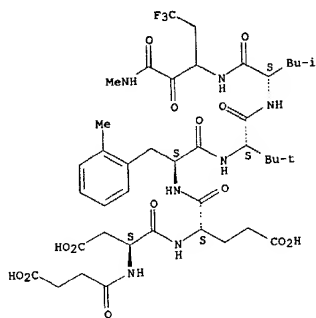
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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SQL 6

MF C41 H58 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

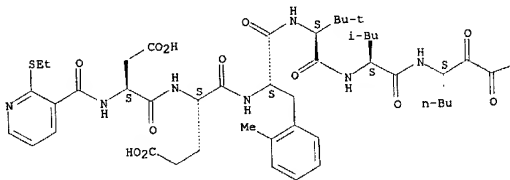


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C46 H66 N8 O12 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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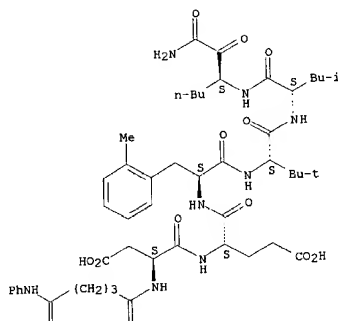
NH2

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C49 H70 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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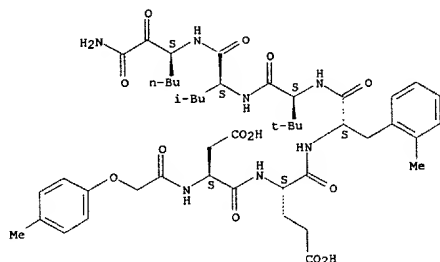
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(4-methylphenoxy)acetyl]-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
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 SQL 6
 MF C47 H67 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



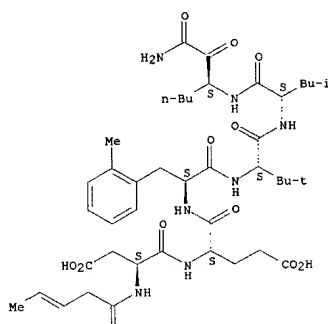
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(1-oxo-3-pentenyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-
 2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-
 (9CI)

SQL 6
 MF C43 H65 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.
 Double bond geometry unknown.

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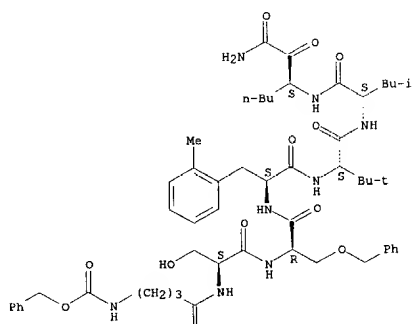


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl]- (9CI)

SQL 7
 MF C54 H76 N8 O12

Absolute stereochemistry.

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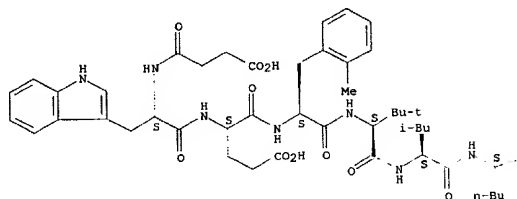


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-tryptophyl-L-.alpha.-glutamyl-2-
 methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-
 (9CI)

SQL 6
 MF C49 H68 N8 O12

Absolute stereochemistry.

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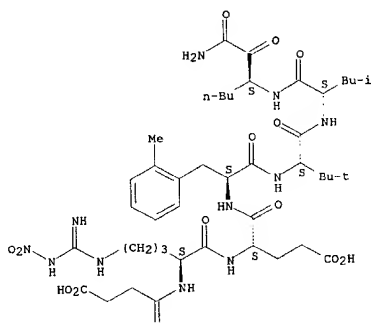


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 ornithyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-
 [(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C44 H69 N11 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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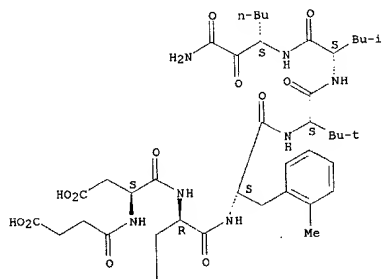


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C53 H71 N7 O13

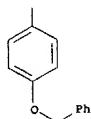
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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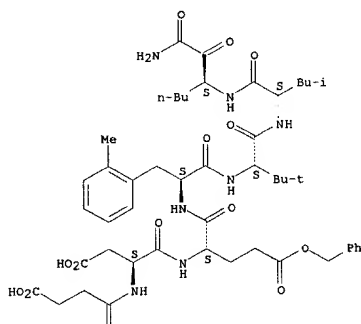


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]-, 2-(phenylmethyl) ester (9CI)
 SQL 6
 MF C49 H69 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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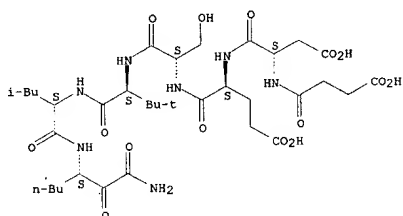


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-L-seryl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C35 H57 N7 O15

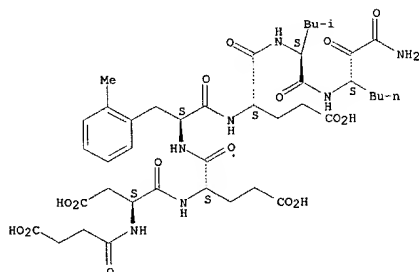
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C41 H59 N7 O16

RELATED SEQUENCES AVAILABLE WITH SEQLINK

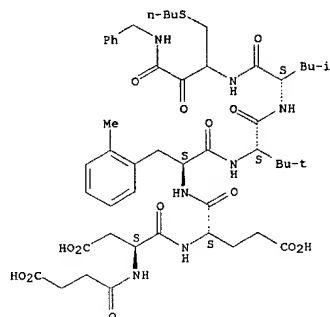
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[1-[(butylthio)methyl]-
 2,3-dioxo-3-[(phenylmethyl)amino]propyl]- (9CI)
 SQL 6
 MF C50 H71 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

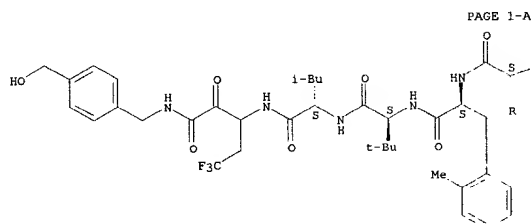
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (hydroxymethyl)phenyl)methyl]amino]-2,3-dioxo-1-(2,2,2-
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 SQL 6
 MF C48 H64 F3 N7 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

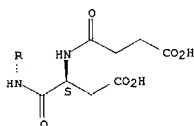


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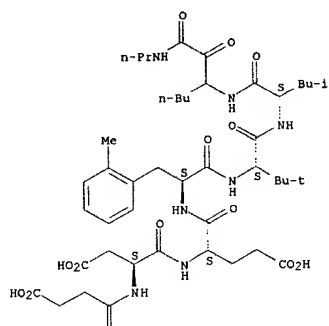


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 [oxo(propylamino)acetyl]pentyl]- (9CI)
 SQL 6
 MF C45 H69 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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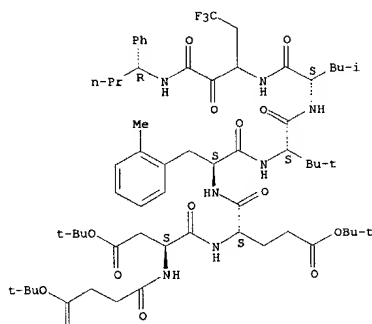


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 [2,3-dioxo-3-[(1R)-1-phenylbutyl]amino]-1-(2,2,2-trifluoroethyl)propyl]-
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C62 H92 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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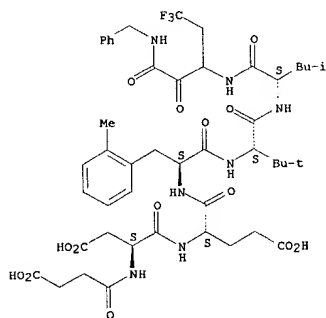
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[2,3-dioxo-3-
 [(phenylmethyl)amino]-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C47 H62 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



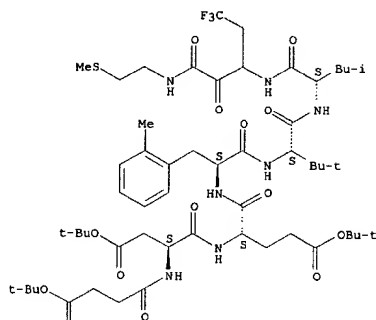
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 [(2-(methylthio)ethyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C55 H86 F3 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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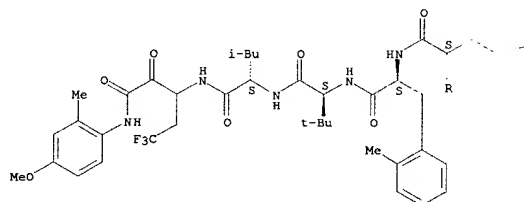


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[(4-methoxy-2-
 methylphenyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C48 H64 F3 N7 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

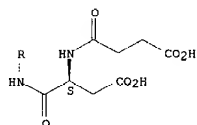
PAGE 1-A



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CO₂H

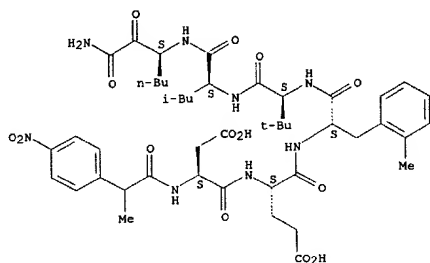
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[2-(4-nitrophenyl)-1-oxopropyl]-L-.alpha.-aspartyl-L-
 .alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C47 H66 N8 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

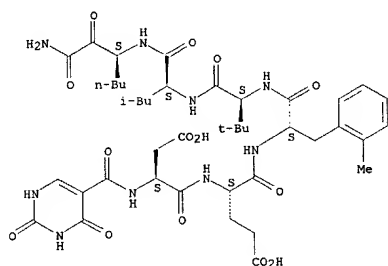
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(1,2,3,4-tetrahydro-2,4-dioxo-5-pyrimidinyl)carbonyl]-L-
 .alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-
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 SQL 6
 MF C43 H61 N9 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

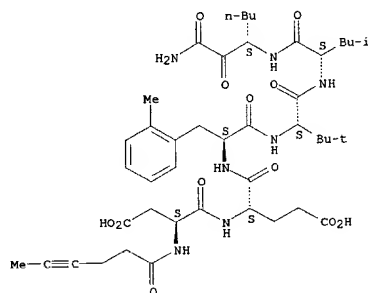
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(1-oxo-4-hexynyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-
 methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-
 (9CI)
 SQL 6
 MF C44 H65 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

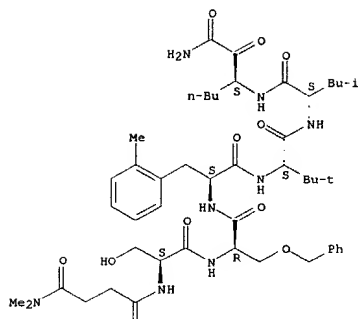


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(dimethylamino)-1,4-dioxobutyl]-L-seryl-O-
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 5
 MF C48 H72 N8 O11

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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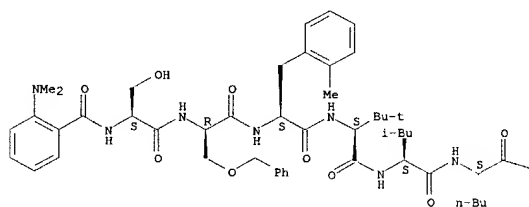


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[2-(dimethylamino)benzoyl]-L-seryl-O-(phenylmethyl)-D-
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C51 H72 N8 O10

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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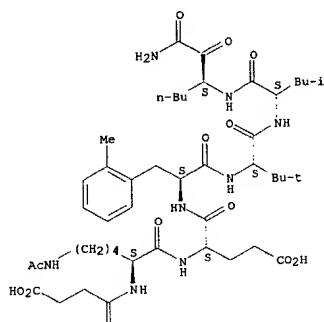


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N6-acetyl-N2-(3-carboxy-1-oxopropyl)-L-lysyl-L-.alpha.-
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C46 H72 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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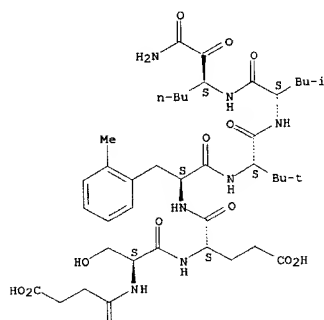
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 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6
 MF C41 H63 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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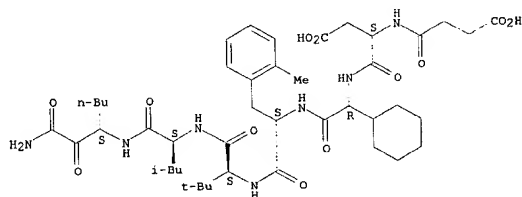
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-(2R)-2-cyclohexylglycyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6
 MF C45 H69 N7 O12

Absolute stereochemistry.

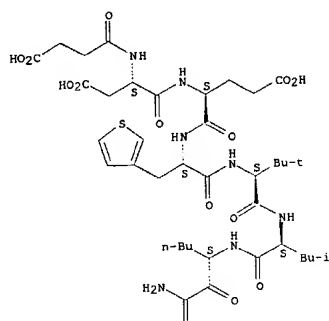


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-3-(3-thienyl)-L-alanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 5
 MF C39 H59 N7 O14 S

Absolute stereochemistry.

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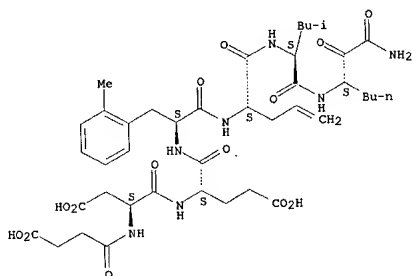


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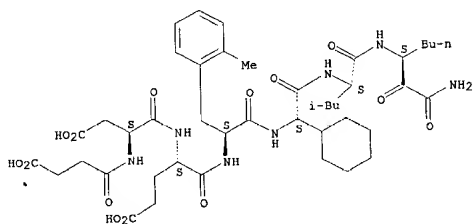
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C41 H59 N7 O14

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-(2S)-2-cyclohexylglycyl-N-[(1S)-1-
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 SQL 6
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Absolute stereochemistry.

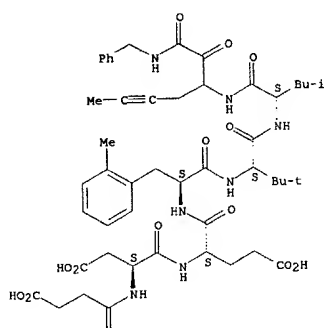


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[1-
 [oxo[(phenylmethyl)amino]acetyl]-3-pentynyl]- (9CI)
 SQL 6
 MF C49 H65 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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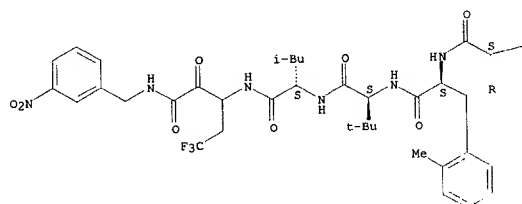


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN 1-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[[[(3-
 nitrophenyl)methyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C47 H61 F3 N8 O16

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

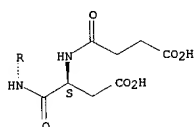
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PAGE 2-A

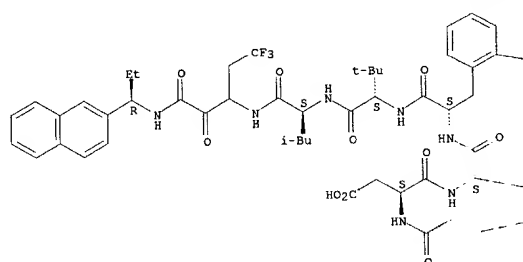


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN 1-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 naphthalenyl)propyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-
 (9CI)
 SQL 6
 MF C53 H68 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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Me

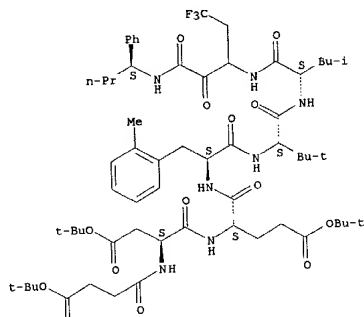
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-[(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-
 [2,3-dioxo-3-[[[(1S)-1-phenylbutyl]amino]-1-(2,2,2-trifluoroethyl)propyl]-
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C62 H92 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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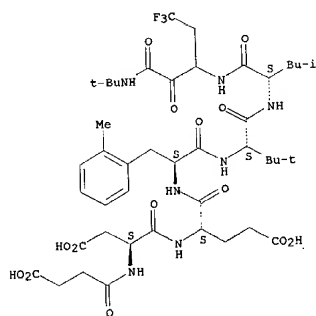
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[[[(1,1-
 dimethylethyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C44 H64 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

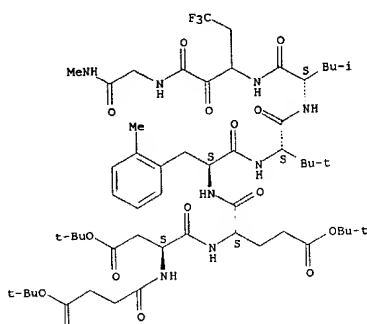
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN Glycinamide, N-[4-[(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-aspartyl-
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 amino-5,5-trifluoro-2-oxopentanoyl-N-methyl-, bis(1,1-dimethylethyl)
 ester (9CI)
 SQL 7
 MF C55 H85 F3 N8 O15

Absolute stereochemistry.

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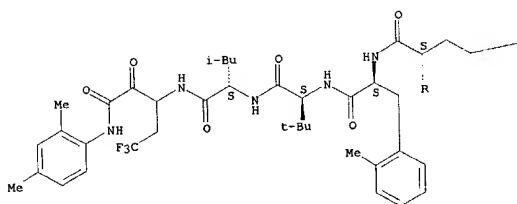


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[(2,4-
 dimethylphenyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C48 H64 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

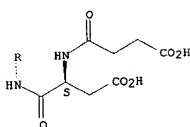
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-CO2H

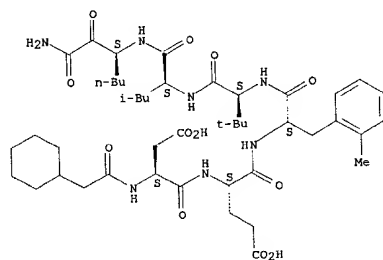
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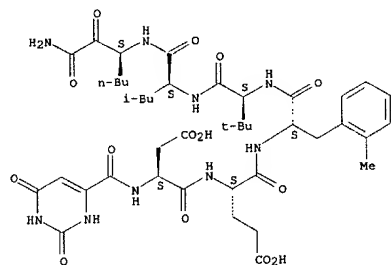
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(cyclohexylacetyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-
 2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-
 (9CI)
 SQL 6
 MF C46 H71 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



Absolute stereochemistry.



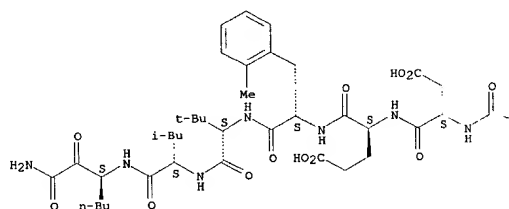
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L19 196 ANSWERS  REGISTRY  COPYRIGHT 2003 ACS
IN  L-leucinamide, N-tricyclo[1.1.1.3,7]dec-1-ylcarbonyl]-L-.alpha.-aspartyl-
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    (aminooxoacetyl)pentyl]- (9CI)
SQL 6
ME  C49 H73 N7 O12

```

Absolute stereochemistry.

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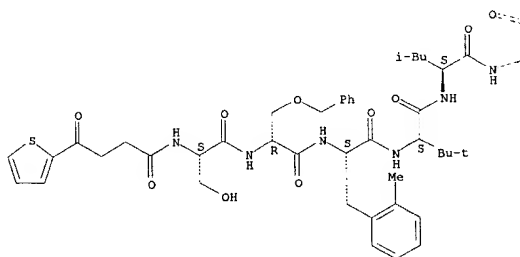
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-leucinamide, N-[1,1-dioxo-4-(2-thienyl)butyl]-L-seryl-O-(phenylmethyl)-D-
seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
(aminooxoacetyl)pentyl]- (9CI)
SQL 6
MF C50 H69 N7 O11 S

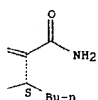
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Absolute stereochemistry.

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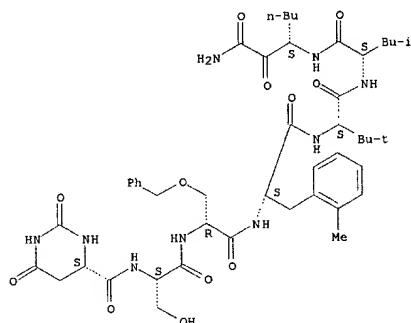
PAGE 1-B



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, (4S)-hexahydro-2,6-dioxo-4-pyrimidinecarbonyl-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 5
 MF C47 H67 N9 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

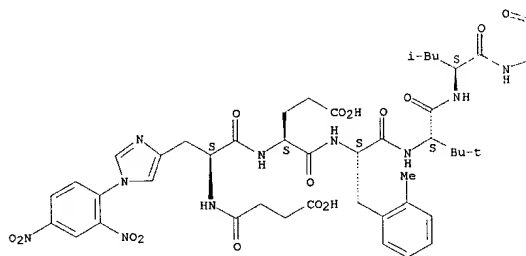


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-1-(2,4-dinitrophenyl)-L-histidyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C50 H67 N11 O16

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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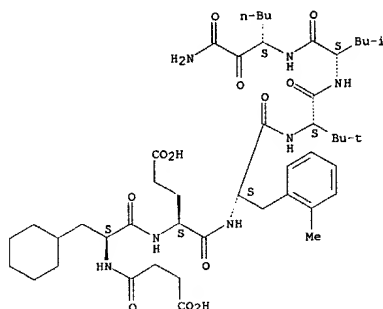


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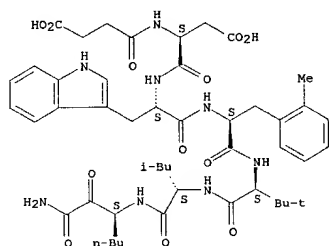
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-3-cyclohexyl-L-alanyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C47 H73 N7 O12

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-tryptophyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C48 H66 N8 O12

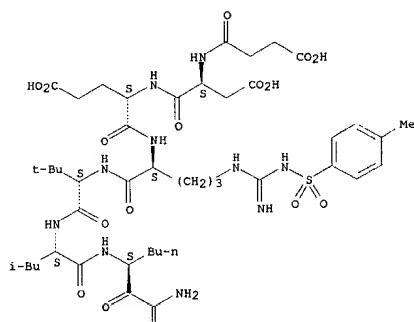
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-N5-[imino[[4-methylphenyl)sulfonyl]amino]methyl]-L-ornithyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C45 H70 N10 O16 S

Absolute stereochemistry.

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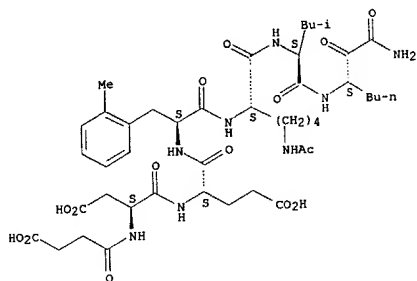


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-N6-acetyl-L-lysyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C44 H66 N8 O15

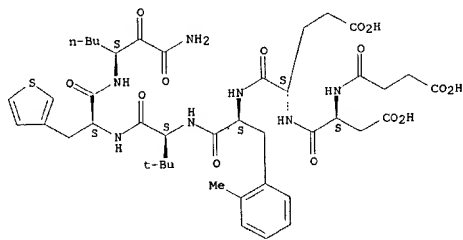
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Alaninamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 SQL 5
 MF C43 H59 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

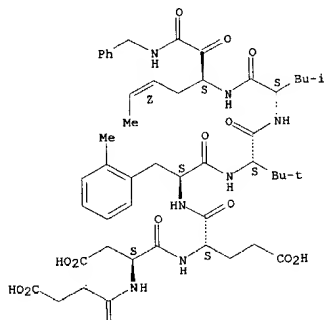


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S,3Z)-1-
 [oxo[(phenylmethyl)amino]acetyl]-3-pentenyl]- (9CI)
 SQL 6
 MF C49 H67 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.
 Double bond geometry as shown.

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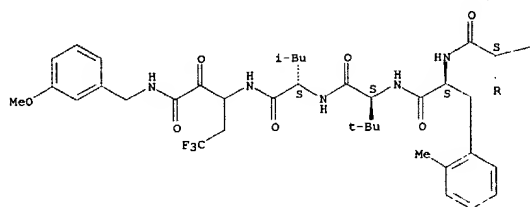


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(3-
 methoxyphenyl)methyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-
 (9CI)
 SQL 6
 MF C48 H64 F3 N7 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

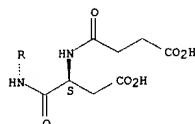
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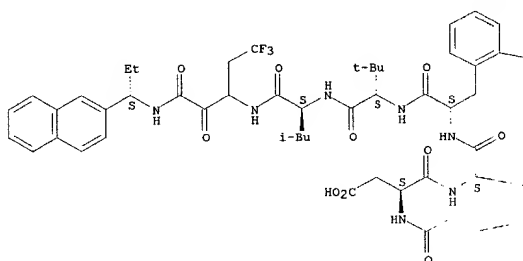


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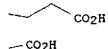


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L- α -aspartyl-L- α -glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[(1S)-1-(2-naphthalenyl)propyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl)-(9CI)
 SQL 6
 MF C53 H68 F3 N7 O14
 RELATED SEQUENCES AVAILABLE WITH SEQLINK
 Absolute stereochemistry.

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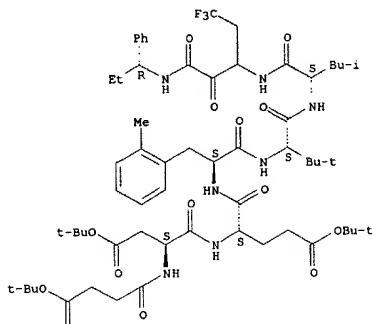


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L- α -aspartyl-L- α -glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[2,3-dioxo-3-[(1R)-1-phenylpropyl]amino]-1-(2,2,2-trifluoroethyl)propyl)-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C61 H90 F3 N7 O14
 RELATED SEQUENCES AVAILABLE WITH SEQLINK
 Absolute stereochemistry.

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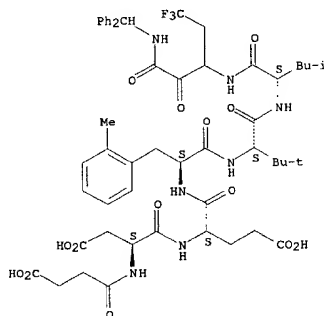


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
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 SQL 6
 MF C53 H66 F3 N7 O14

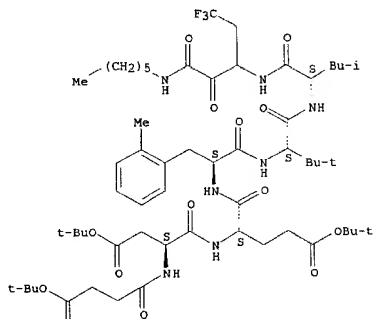
RELATED SEQUENCES AVAILABLE WITH SEQLINK
 Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 (hexylamino)-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C58 H92 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK
 Absolute stereochemistry.

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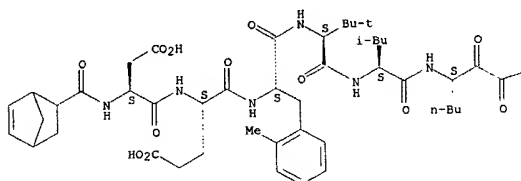
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Leucinamide, N-(bicyclo[2.2.1]hept-5-en-2-ylcarbonyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C46 H67 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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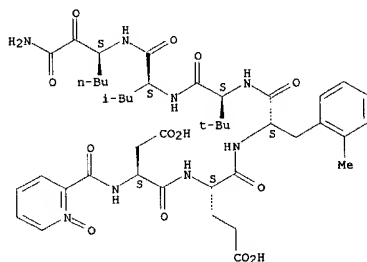
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—NH₂

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(1-oxido-2-pyridinyl)carbonyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C44 H62 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

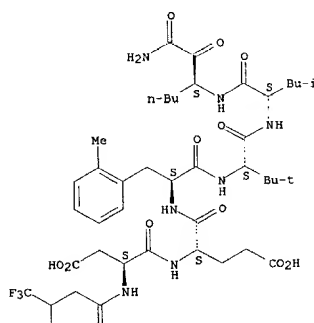


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(4,4,4-trifluoro-3-methyl-1-oxobutyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C43 H64 F3 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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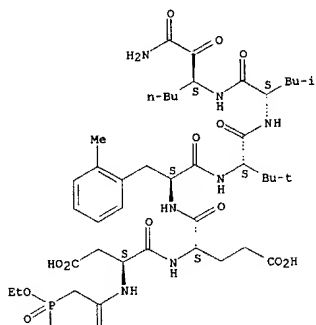
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(diethoxyphosphinyl)acetyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6

MF C44 H70 N7 O15 P

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Leucinamide, N-[(3E)-1-oxo-4-phenyl-3-butenyl]-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6

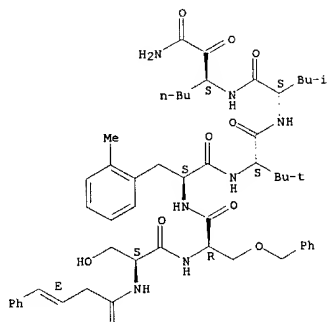
MF C52 H71 N7 O10

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

Double bond geometry as shown.

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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Leucinamide, N-(1H-benzotriazol-5-ylcarbonyl)-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

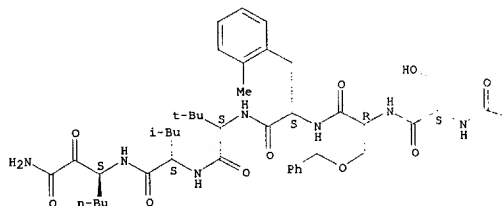
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MF C49 H66 N10 O10

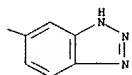
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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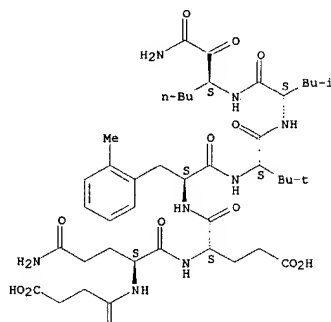


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-glutamyl-
 2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]-
 (9CI)

SQL 6
 MF C43 H66 N8 O13

Absolute stereochemistry.

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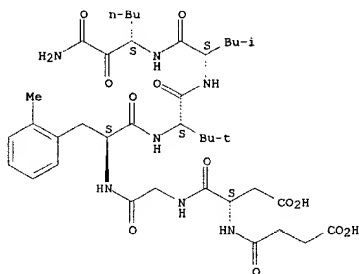
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartylglycyl-2-methyl-
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SQL 6
 MF C39 H59 N7 O12

Absolute stereochemistry.

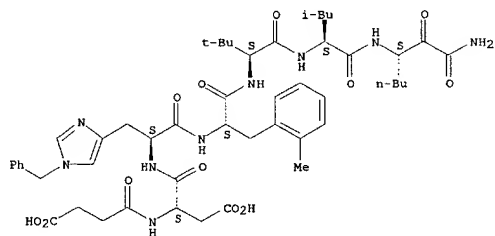


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-1-
 (phenylmethyl)-L-histidyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-
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SQL 6
 MF C50 H69 N9 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

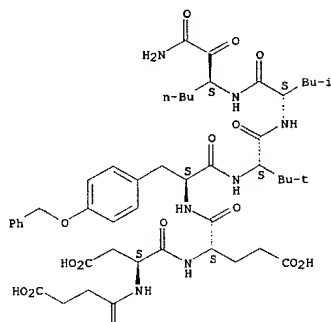
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-O-(phenylmethyl)-L-tyrosyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C48 H67 N7 O15

Absolute stereochemistry.

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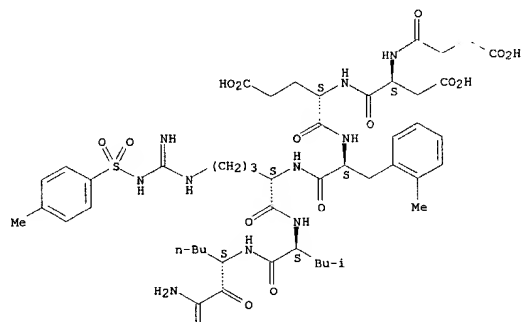
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-N5-[imino[[4-
 methylphenyl)sulfonyl]amino]methyl]-L-ornithyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C49 H70 N10 O16 S

Absolute stereochemistry.

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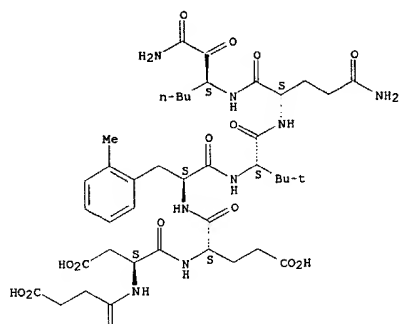
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Glutamamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N1-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C41 H60 N8 O15

Absolute stereochemistry.

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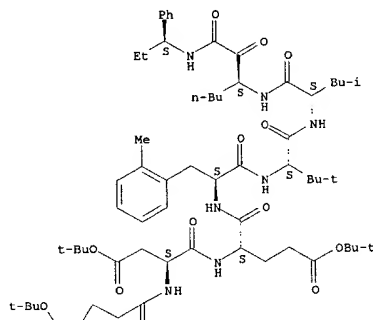


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-
 [(1S)-1-oxo[(1S)-1-phenylpropyl]amino]acetyl]pentyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C63 H97 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



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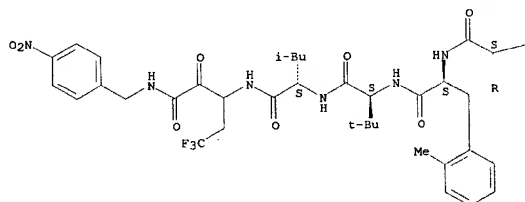


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[3-carboxy-1-oxopropyl]-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[[[4-
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 SQL 6
 MF C47 H61 F3 N8 O16

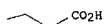
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

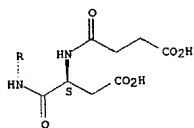
PAGE 1-A



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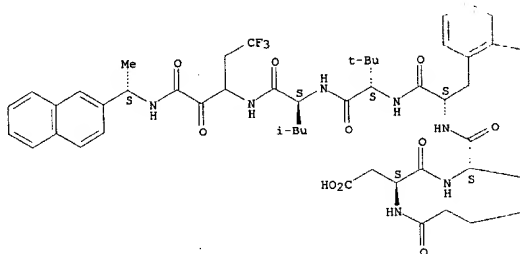


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 naphthalenyl)ethyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C52 H66 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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Me

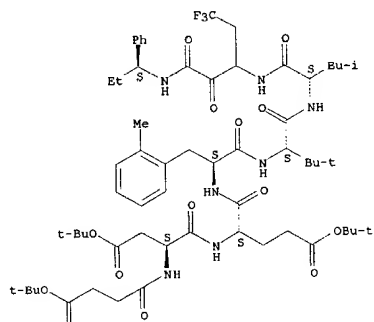
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 , bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C61 H90 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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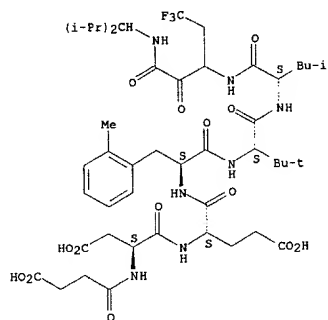
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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methylethyl)propyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C47 H70 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



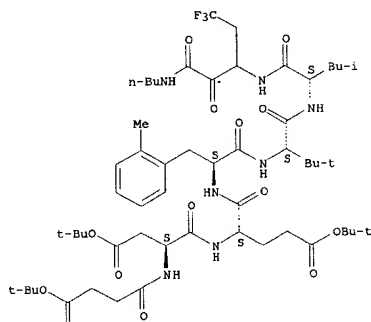
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 (butylamino)-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)

SQL 6
 MF C56 H88 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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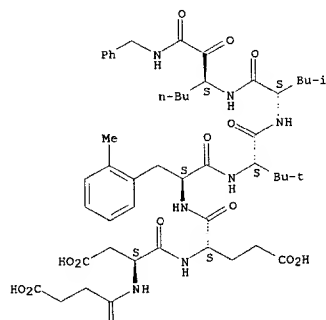
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 [oxo[(phenylmethyl)amino]acetyl]pentyl]- (9CI)

SQL 6
 MF C49 H69 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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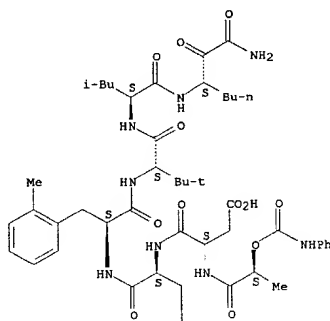


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C48 H68 N8 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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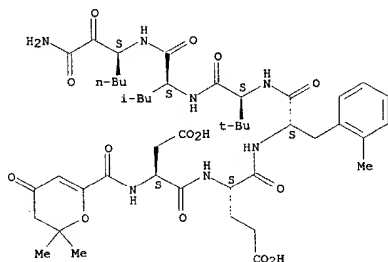
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(3,4-dihydro-2,2-dimethyl-4-oxo-2H-pyran-6-yl)carbonyl]-
 L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-
 valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C46 H67 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

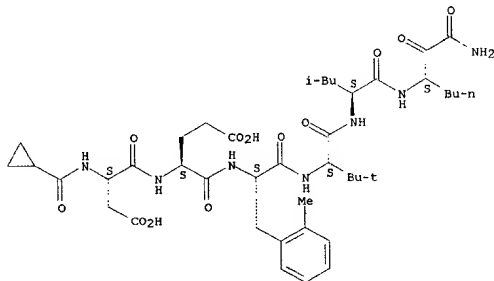
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C42 H63 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

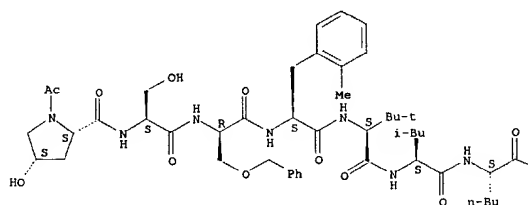
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, (4S)-1-acetyl-4-hydroxy-L-prolyl-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 7
 MF C49 H72 N8 O12

Absolute stereochemistry.

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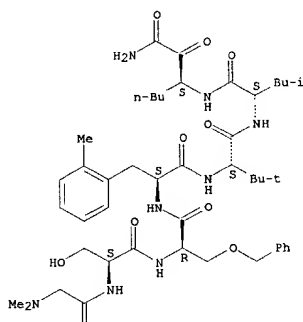
PAGE 1-B



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N,N-dimethylglycyl-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 7
 MF C46 H70 N8 O10

Absolute stereochemistry.

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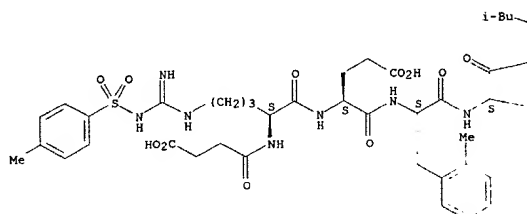


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N2-(3-carboxy-1-oxopropyl)-N5-(imino[[4-methylphenyl)sulfonyl]amino]methyl]-L-ornithyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C51 H76 N10 O14 S

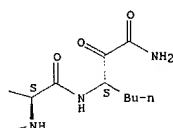
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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Bu-t

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

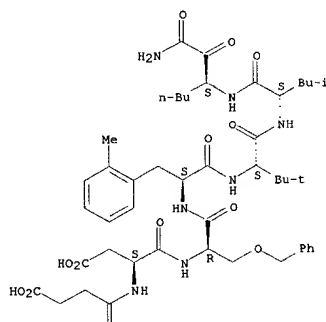
IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-O-(phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxooxycetyl)pentyl]- (9CI)

SQL 6

MF C47 H67 N7 O13

Absolute stereochemistry.

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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

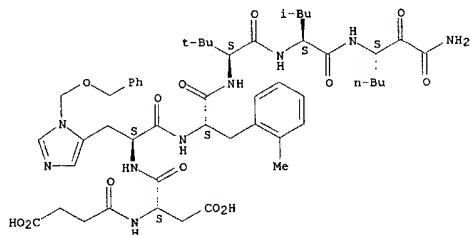
IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-3-[(phenylmethoxy)methyl]-L-histidyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxooxycetyl)pentyl]- (9CI)

SQL 6

MF C51 H71 N9 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS

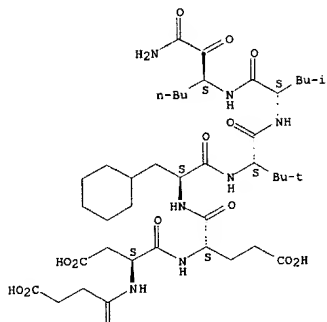
IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-

glutamyl-3-cyclohexyl-L-alanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6
MF C41 H67 N7 O14

Absolute stereochemistry.

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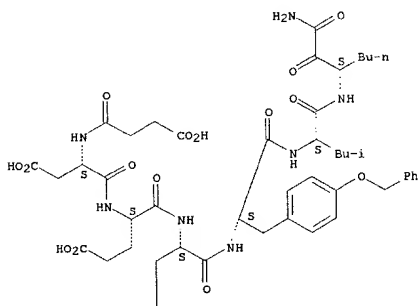
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-O-(phenylmethyl)-L-tyrosyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
SQL 6
MF C52 H67 N7 O15

Absolute stereochemistry.

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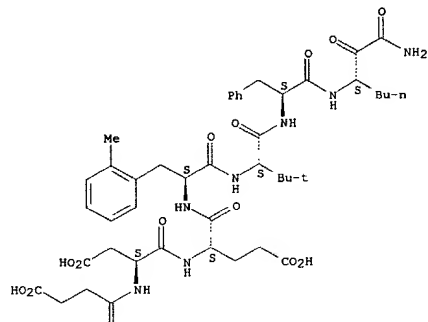
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Phenylalaninamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
SQL 6
MF C45 H61 N7 O14

Absolute stereochemistry.

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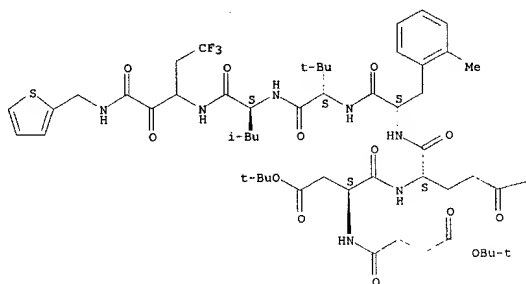


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(4-(1,1-dimethylethoxy)-1,4-dioxobutyl)-L-.alpha.-
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 [2,3-dioxo-3-[(2-thienylmethyl)amino]-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C57 H84 F3 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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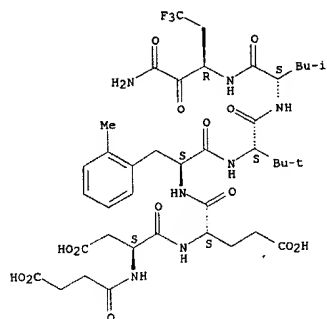
PAGE 1-B

OBu-t

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-exopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1R)-3-amino-2,3-
 dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C40 H56 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

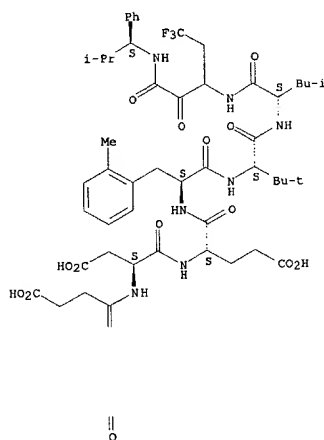


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 phenylpropyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C50 H68 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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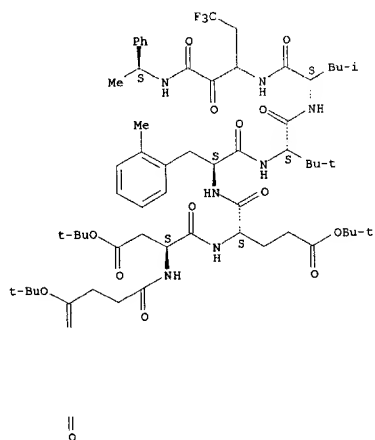
PAGE 2-A

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 [2,3-dioxo-3-[(1S)-1-phenylethyl]amino]-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C60 H88 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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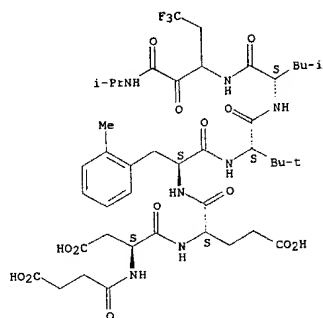
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methylethyl)amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)

SQL 6
MF C43 H62 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



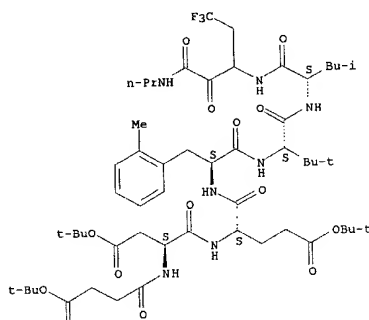
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[(2,3-dioxo-3-(propylamino)-1-(2,2,2-trifluoroethyl)propyl]-,
bis(1,1-dimethylethyl) ester (9CI)

SQL 6
MF C55 H86 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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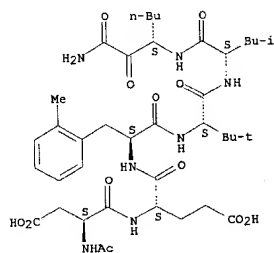


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-acetyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-
phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6
MF C40 H61 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

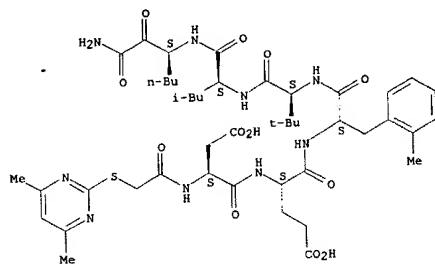


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Leucinamide, N-[[[4,6-dimethyl-2-pyrimidinyl]thio]acetyl]-L-.alpha.-
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[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)

SQL 6
MF C46 H67 N9 O12 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

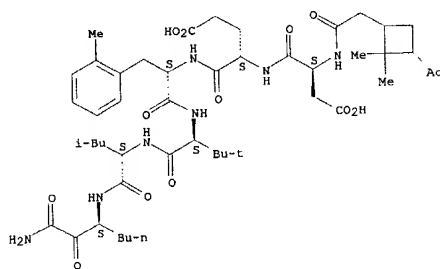
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 6
 MF C48 H73 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

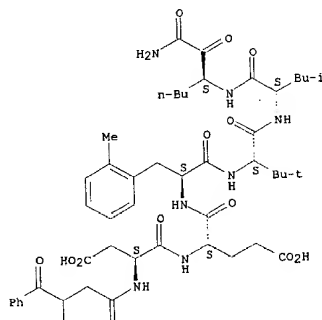


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-methyl-1,4-dioxo-4-phenylbutyl)-L-.alpha.-aspartyl-L-
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 SQL 6
 MF C49 H69 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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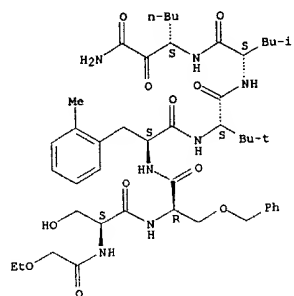
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(ethoxyacetyl)-L-seryl-O-(phenylmethyl)-D-seryl-2-methyl-
 L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
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RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

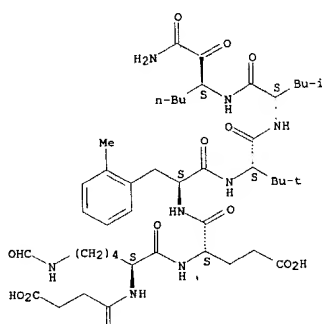


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N2-(3-carboxy-1-oxopropyl)-N6-formyl-L-lysyl-L-.alpha.-
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 SQL 6
 MF C45 H70 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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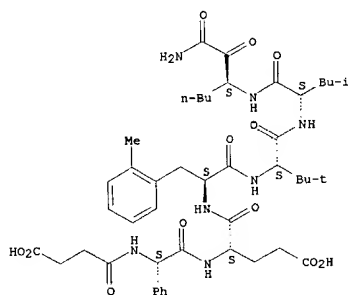


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, (2S)-N-(3-carboxy-1-oxopropyl)-2-phenylglycyl-L-.alpha.-
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 SQL 6
 MF C46 H65 N7 O12

Absolute stereochemistry.

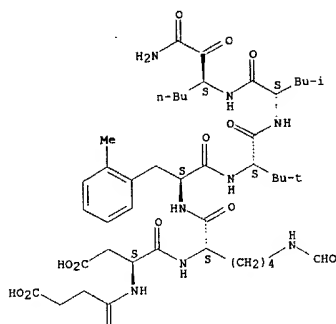


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (aminooxoacetyl)pentyl)- (9CI)
 SQL 6
 MF C44 H68 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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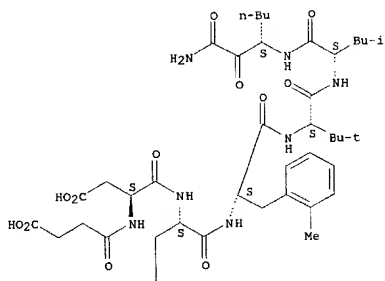


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-O-(
 (phenylmethyl)-L-tyrosyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-
 1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C53 H71 N7 O13

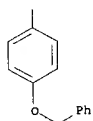
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A

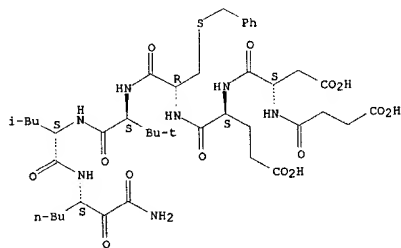


PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-S-(phenylmethyl)-L-cysteinyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C42 H63 N7 O14 S

Absolute stereochemistry.



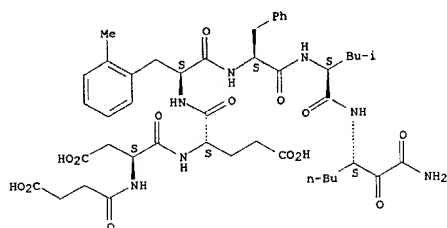
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-

Searched by Susan Hanley 305-4053

Page 64

glutamyl-2-methyl-L-phenylalanyl-L-phenylalanyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C45 H61 N7 O14

Absolute stereochemistry.

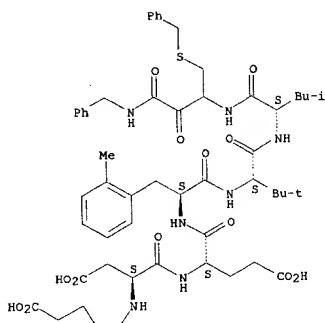


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[2,3-dioxo-3-[(phenylmethyl)amino]-1-[(phenylmethyl)thio]methyl]propyl]- (9CI)
 SQL 6
 MF C53 H69 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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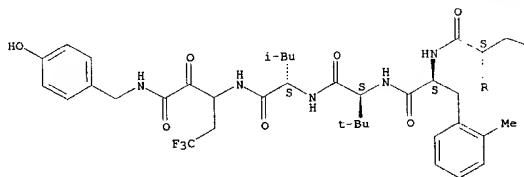


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-[(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[(4-hydroxyphenyl)methyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C59 H86 F3 N7 O15

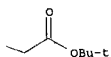
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

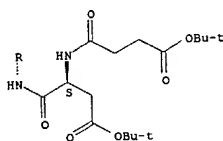
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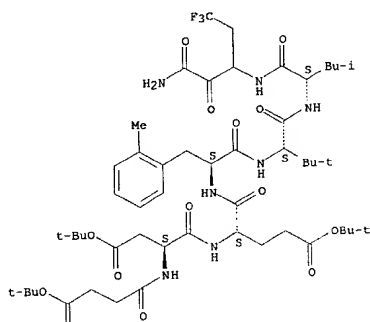
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 amino-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-, bis(1,1-dimethylethyl)
 ester (9CI)

SQL 6
 MF C52 H80 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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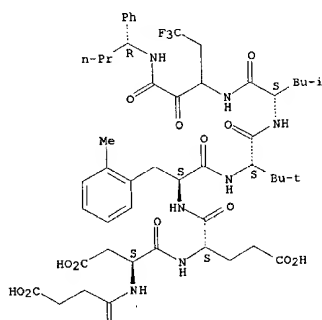
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 phenylbutyl)amino]-1-(2,2,2-trifluoroethyl)propyl]- (9CI)

SQL 6
 MF C50 H68 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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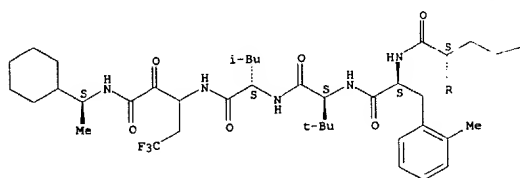
L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 amino-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-, bis(1,1-dimethylethyl)
 ester (9CI)

SQL 6
 MF C60 H94 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

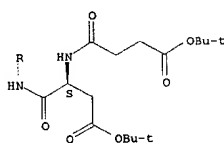
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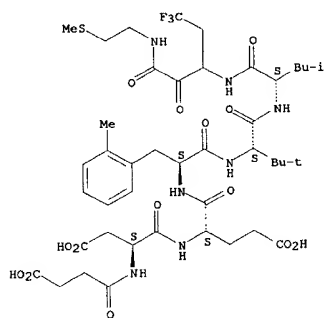
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-[[2-
 (methylthio)ethyl]amino]-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]- (9CI)
 SQL 6
 MF C43 H62 F3 N7 O14 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

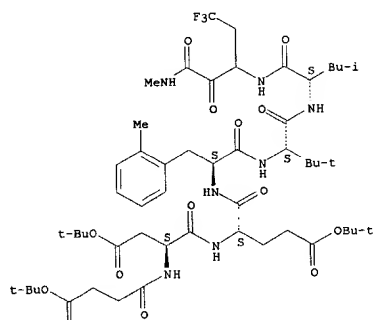


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 (methylamino)-2,3-dioxo-1-(2,2,2-trifluoroethyl)propyl]-,
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C53 H82 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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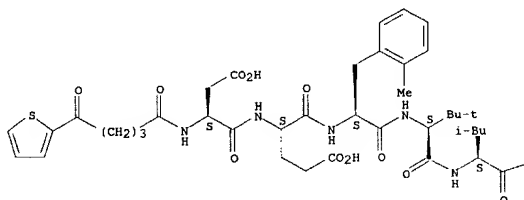
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[1,5-dioxo-5-(2-thienyl)pentyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C47 H67 N7 O13 S

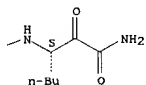
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



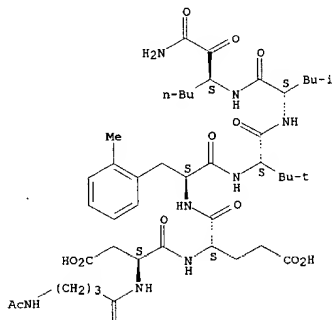
PAGE 1-B



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(acetylamino)-1-oxobutyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 7
 MF C44 H68 N8 O13

Absolute stereochemistry.

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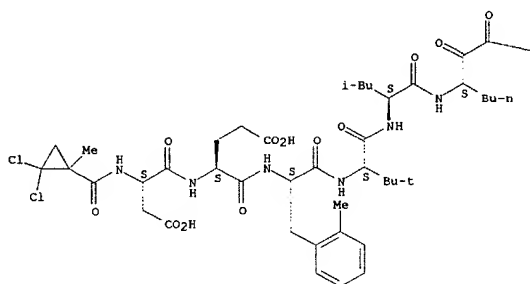
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(2,2-dichloro-1-methylcyclopropyl)carbonyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C43 H63 Cl2 N7 O12

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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 —NH_2

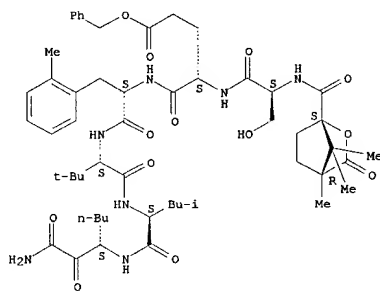
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-lysine, L-[1([15,4R)-4,7,7-trimethyl-3-exo-2-oxabicyclo[2.2.1]hept-1-yl]carbonyl]-L-seryl-L- $\alpha$ -glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(15)-1-(aminooxocacetyl)pentyl], phenylmethyl (9CI)
SQL 6
MF C54 H77 N7 O13

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RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



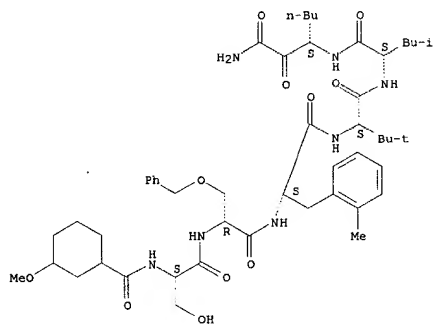
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L19 196 ANSWERS  REGISTRY  COPYRIGHT 2003 ACS
IN  L-Lucanamide, N-[(3-methoxyphenyl)oxy]carbonyl-L-seryl-O-(phenylmethyl)-
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SQL 6
MF  C50 H75 N7 O11

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RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



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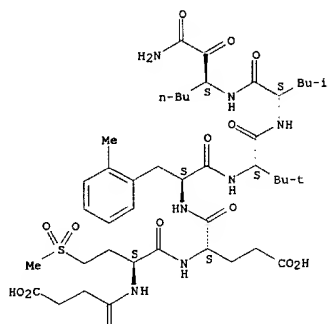
L19 196 ANSWERS      REGISTRY COPYRIGHT 2003 ACS
IN  L-leucinamide, 2S)-2-[(3-carboxy-1-oxopropyl)amino]-4-
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    methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
SQ  6
MF  C43 H67 N7 O14 S

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RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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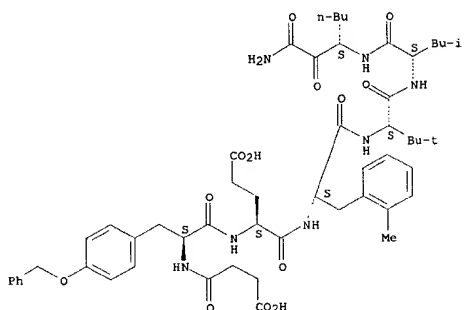
PAGE 2-A



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-O-(phenylmethyl)-L-tyrosyl-L-
 .alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C54 H73 N7 O13

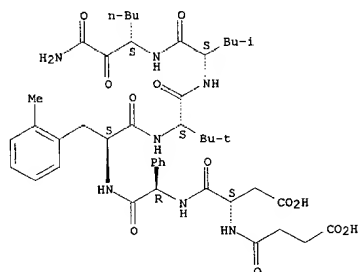
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-(2R)-2-
 phenylglycyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C45 H63 N7 O12

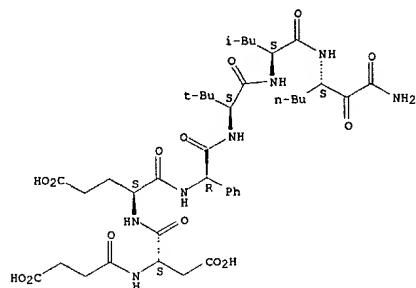
Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C40 H59 N7 O14

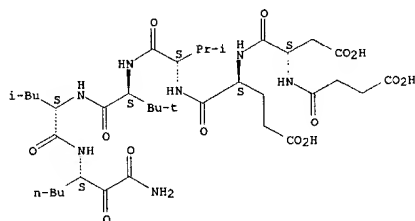
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-L-valyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C37 H61 N7 O14

Absolute stereochemistry.

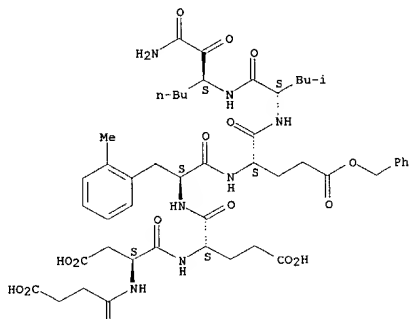


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
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 (aminooxoacetyl)pentyl]-, 4-(phenylmethyl) ester (9CI)
 SQL 6
 MF C48 H65 N7 O16

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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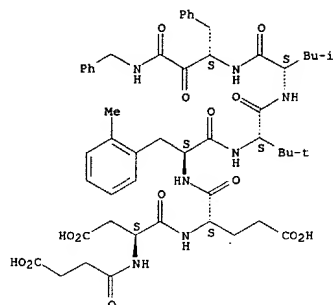
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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-2,3-dioxo-1-
 (phenylmethyl)-3-[(phenylmethyl)amino]propyl]- (9CI)
 SQL 6
 MF C52 H67 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

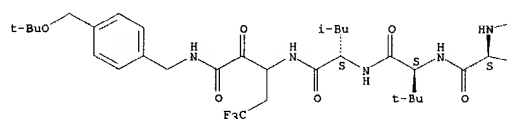


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[3-
 [[4-[(1,1-dimethylethoxy)methyl]phenyl]methyl]amino]-2,3-dioxo-1-(2,2,2-
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 SQL 6
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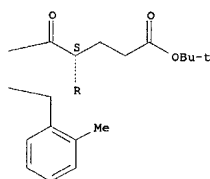
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

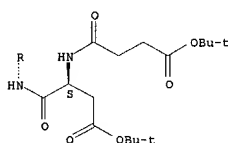
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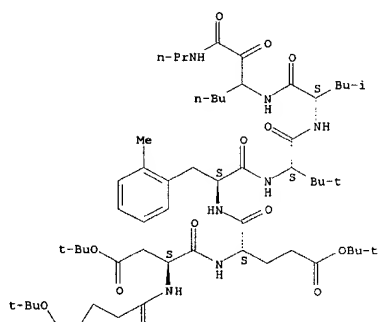


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[1-
 [oxo(propylamino)acetyl]pentyl]-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C57 H93 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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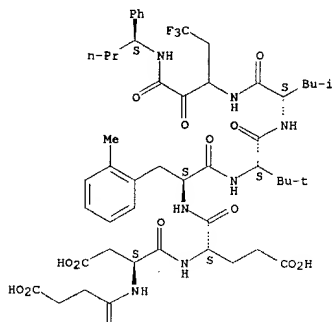
PAGE 2-A

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[2,3-dioxo-3-[(1S)-1-
 phenylbutyl]amino]-1-(2,2,2-trifluoroethyl)propyl)- (9CI)
 SQL 6
 MF C50 H68 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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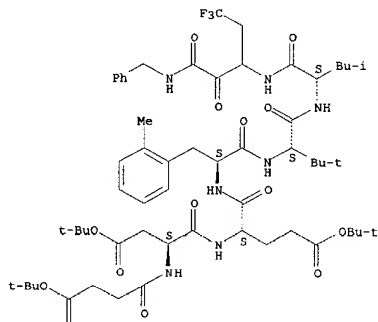


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
 aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-
 [2,3-dioxo-3-[(phenylmethyl)amino]-1-(2,2,2-trifluoroethyl)propyl]-
 bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C59 H86 F3 N7 O14

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A

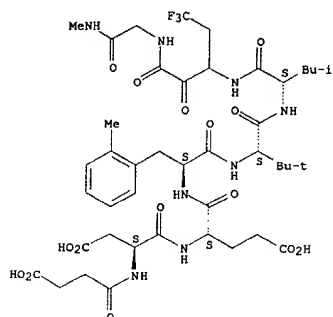


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L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN Glycinamide, N-(3-carboxy-1-oxopropyl)-L-.alpha.-aspartyl-L-.alpha.-
 glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-L-leucyl-3-amino-5,5,5-
 trifluoro-2-oxopentanoyl-N-methyl- (9CI)
 MF C43 H61 F3 N8 O15

Absolute stereochemistry.

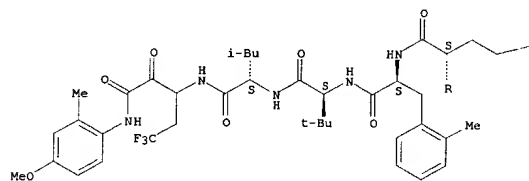


LI9 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[4-(1,1-dimethylethoxy)-1,4-dioxobutyl]-L-.alpha.-
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 [(4-methoxy-2-methylphenyl)amino]-2,3-dioxo-1-(2,2,2-
 trifluoroethyl)propyl]-, bis(1,1-dimethylethyl) ester (9CI)
 SQL 6
 MF C60 H88 F3 N7 O15

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

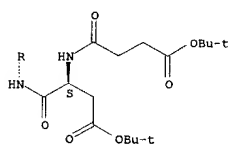
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PAGE 2-A



ALL ANSWERS HAVE BEEN SCANNED

d scan of cpds for #4 of

AUDET 09/909,062

L13

=> d scan 115

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycylglycyl-L-.alpha.-aspartyl-L-tyrosyl- (9CI)

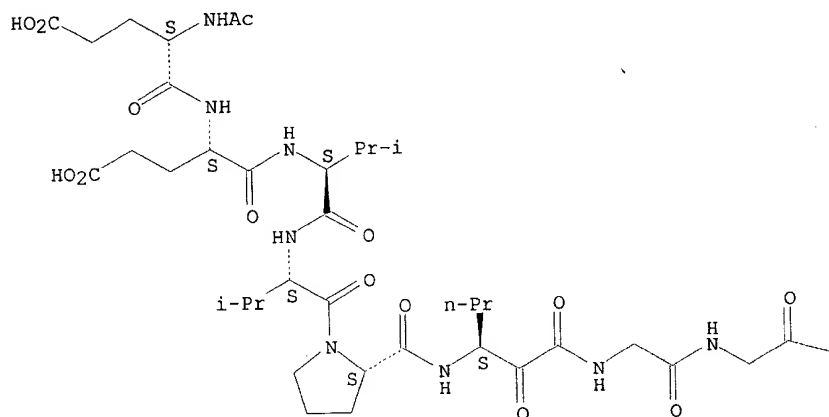
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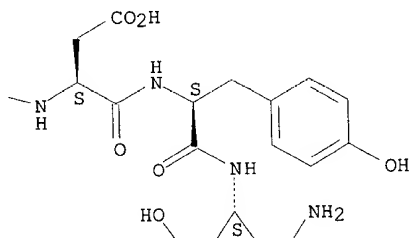
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

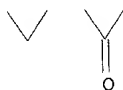
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

Searched by Susan Hanley 305-4053

Page 1

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):48

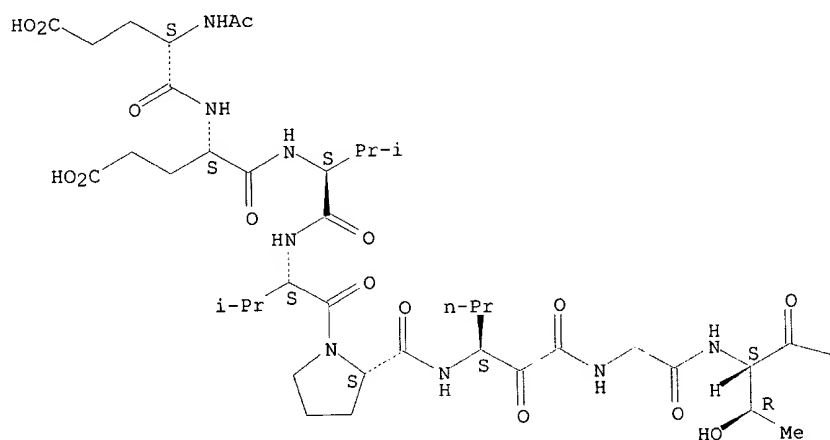
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
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 tyrosyl- (9CI)

SQL 11
 MF C54 H82 N12 O21

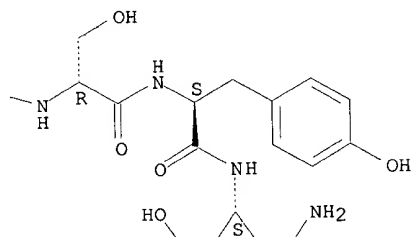
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

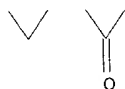
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-seryl-D-.alpha.-aspartyl-L-tyrosyl- (9CI)

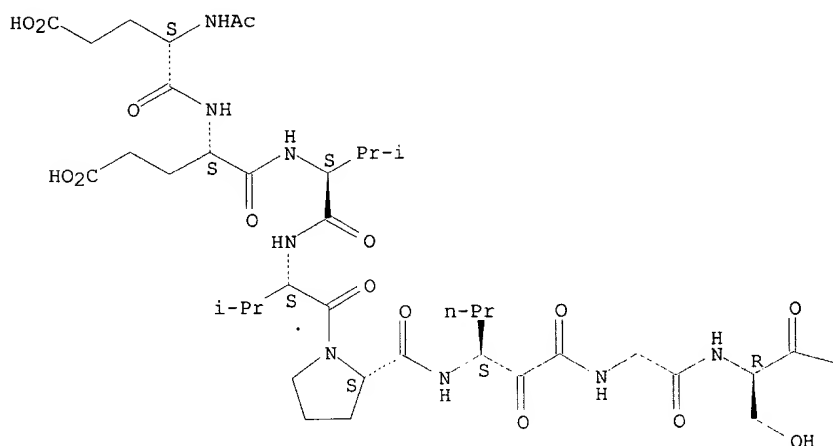
SQL 11

MF C54 H80 N12 O22

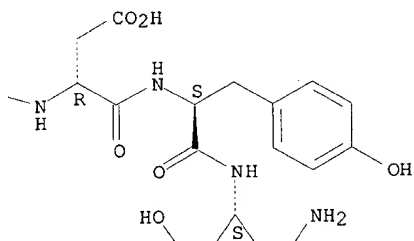
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

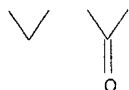
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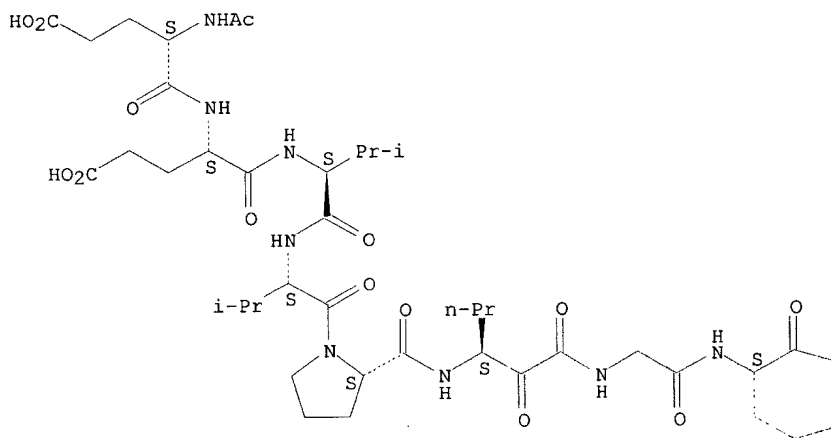
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serine, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-valyl-L-
 prolyl-(3S)-3-amino-2-oxohexanoylglycyl-L-methionyl-L-seryl-L-tyrosyl-
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 SQL 11
 MF C55 H83 N11 O21 S

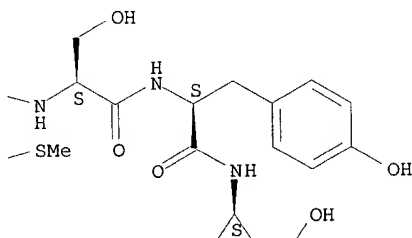
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

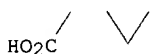
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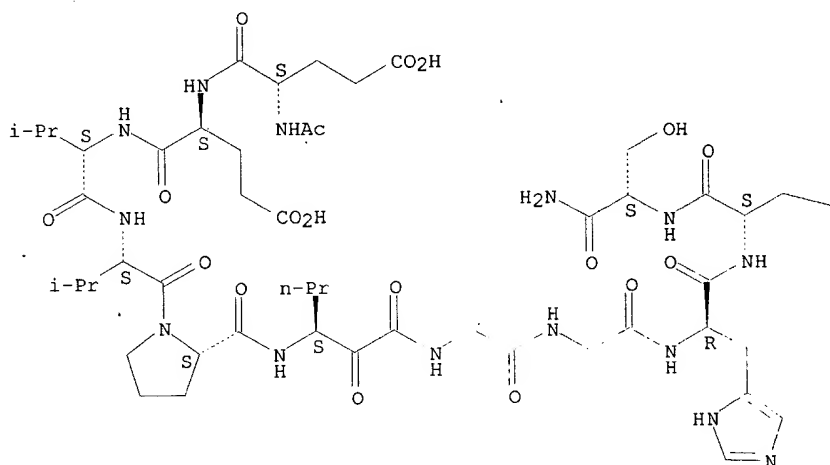
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 11
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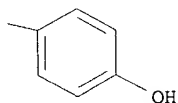
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

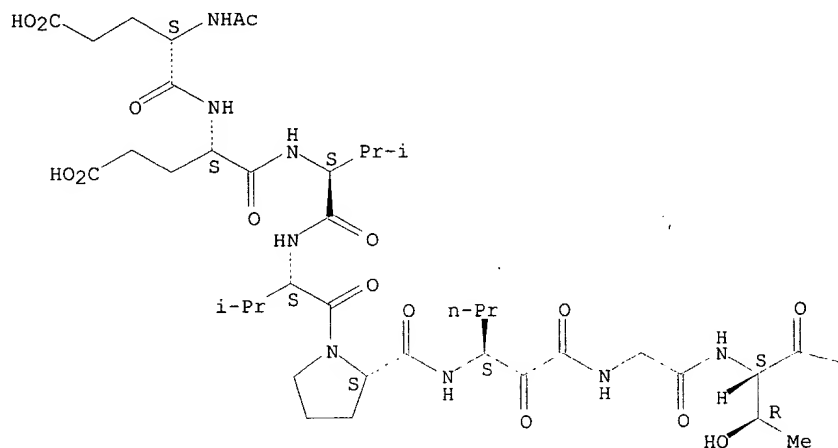
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-L-threonyl-L-seryl-L-
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 SQL 11

MF C54 H82 N12 O21

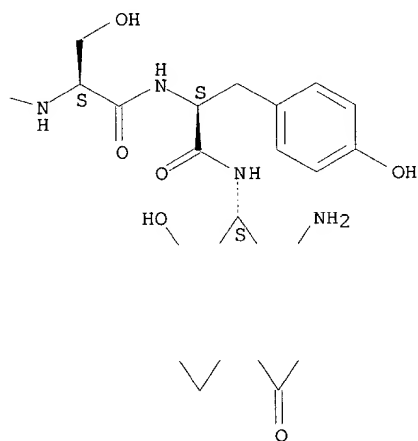
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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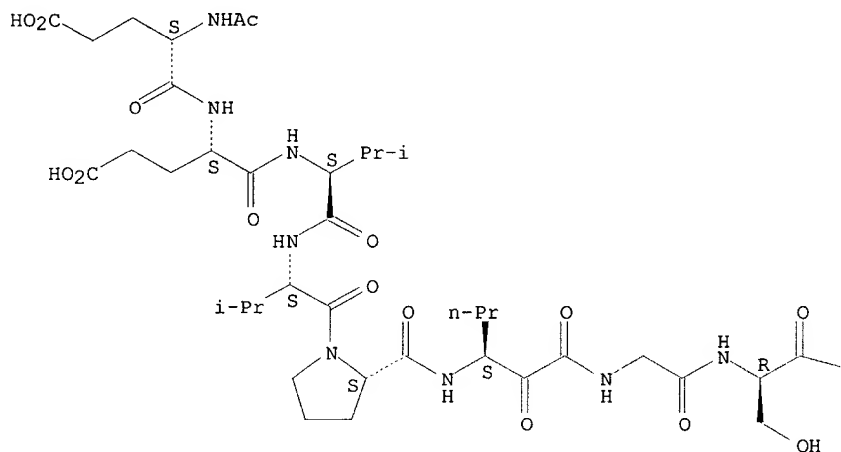
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-seryl-L-.alpha.-aspartyl-
 L-tyrosyl- (9CI)

SQL 11
MF C54 H80 N12 O22

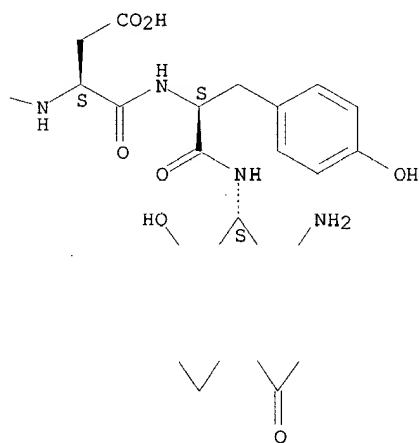
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
valyl-L-prolyl-3-amino-2-oxo-5-hexynoylglycyl-L-methionyl-L-seryl-L-

Absolute stereochemistry.

C[C@H](NC(=O)SCCC(=O)O)C(=O)N[C@@H](CS(C)C)C(=O)N[C@@H](CS(C)C)C(=O)N[C@@H](C1CCCCS1)C(=O)NCC(=O)NCC(=O)NCC(=O)N[C@@H](CS(C)C)C(=O)N

The chemical structure shows a complex molecule with a thioether linkage. On the left, a chiral center is bonded to a hydroxyl group (OH) and a thioether group (S) which is further connected to a methyl group (Me). This chiral center is also bonded to a carbonyl group (C=O) which is part of a thioamide-like structure (NH-C=O). This structure is linked to a p-hydroxyphenyl group (a benzene ring with an OH group at the para position). Below the main structure, there are two fragments: a vinyl group (CH₂=CH-) and a carbonyl group (C=O).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

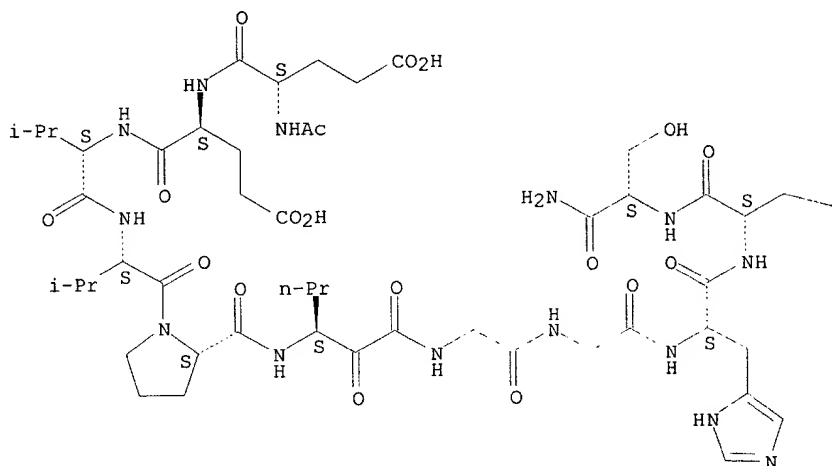
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycylglycyl-L-histidyl-L-tyrosyl-

(9CI)
SQL 11
MF C55 H80 N14 O19

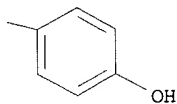
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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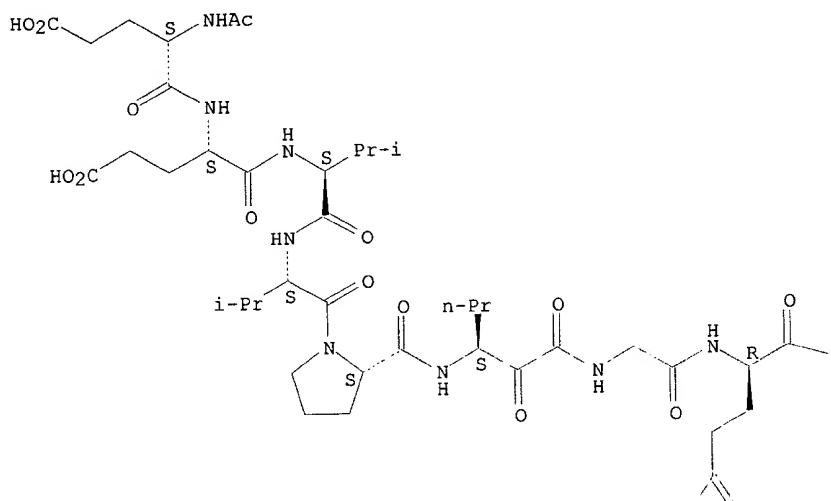
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-glutamyl-D-.alpha.-
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SQL 11
MF C56 H83 N13 O22

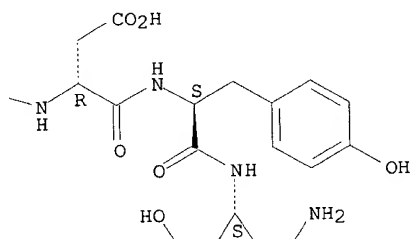
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

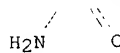
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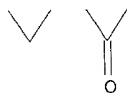
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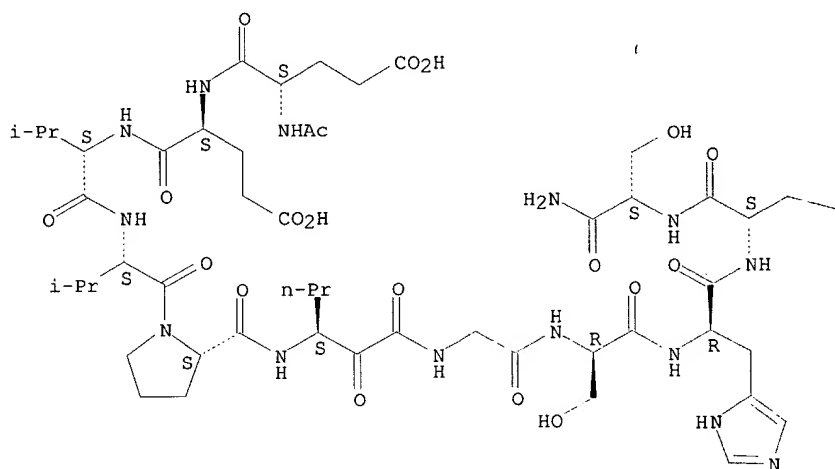
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-seryl-D-histidyl-L-
 tyrosyl- (9CI)
 SQL 11
 MF C56 H82 N14 O20

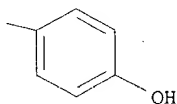
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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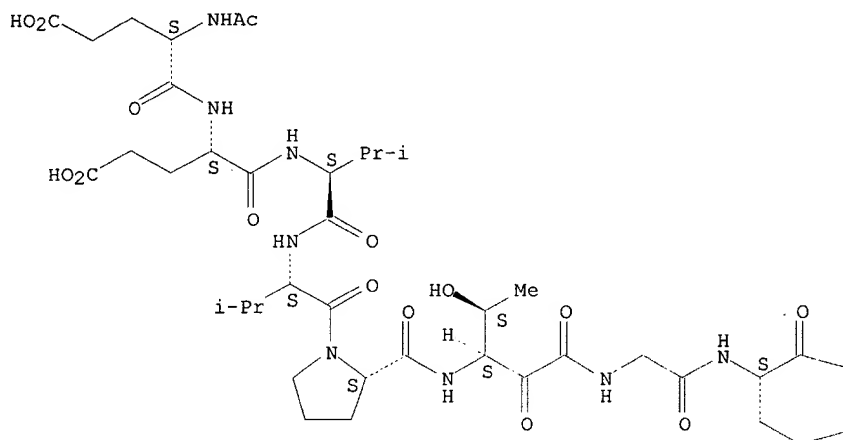
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 valyl-L-prolyl-(3S,4S)-3-amino-4-hydroxy-2-oxopentanoylglycyl-L-methionyl-
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 SQL 11
 MF C54 H82 N12 O21 S

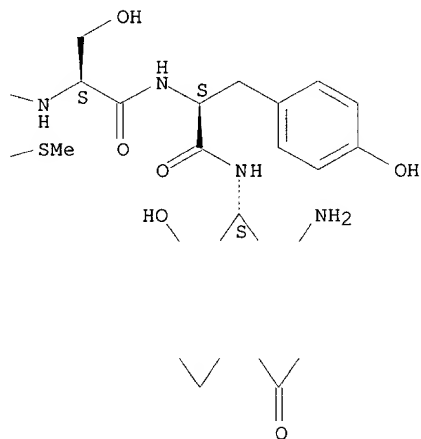
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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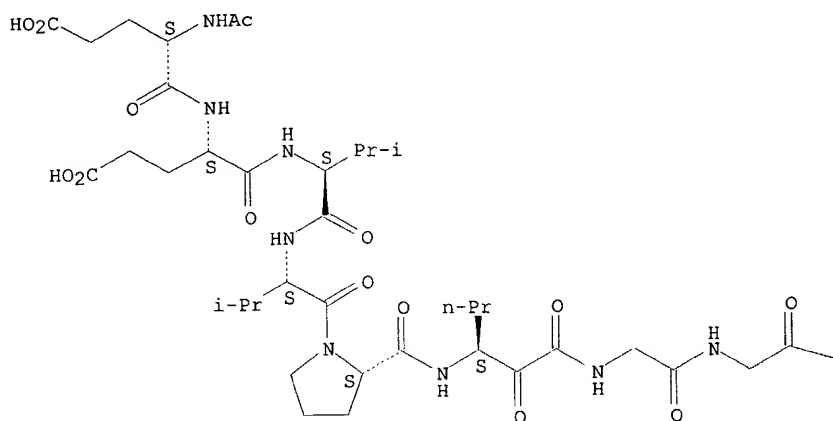


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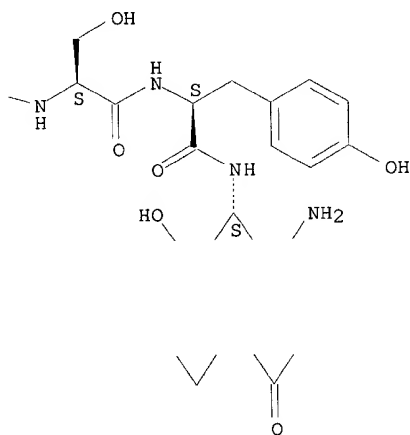
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 (9CI)
 SQL 11
 MF C52 H78 N12 O20
 Absolute stereochemistry.

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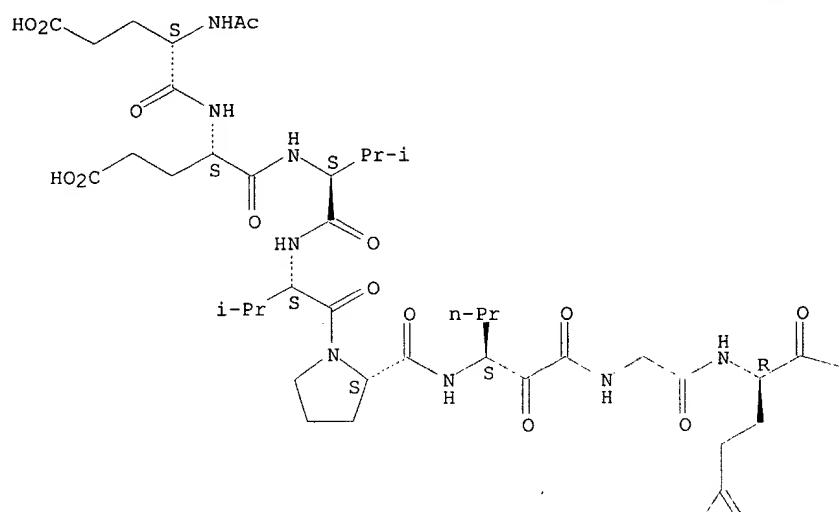
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

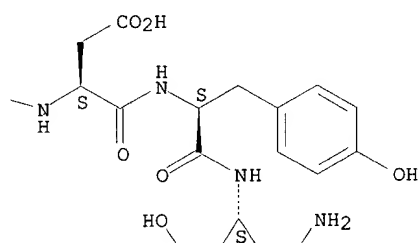
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-glutaminy-L-.alpha.-
 aspartyl-L-tyrosyl- (9CI)
 MF C56 H83 N13 O22

Absolute stereochemistry.

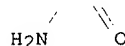
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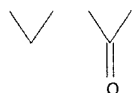
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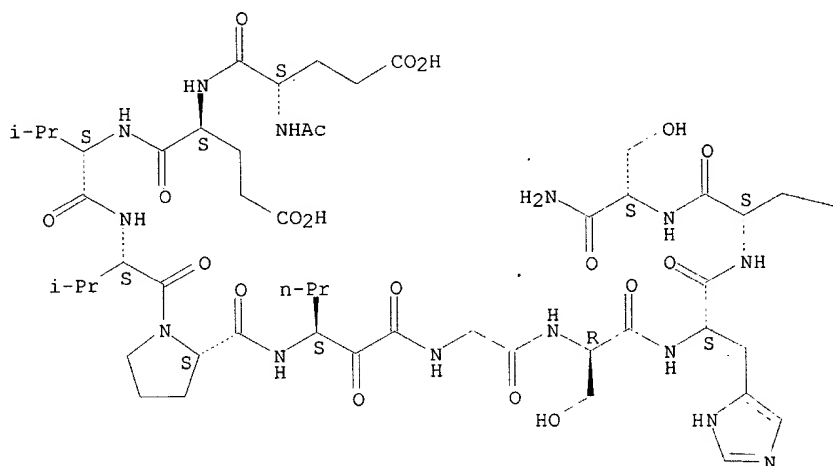
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-seryl-L-histidyl-L-
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 SQL 11
 MF C56 H82 N14 O20

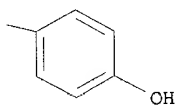
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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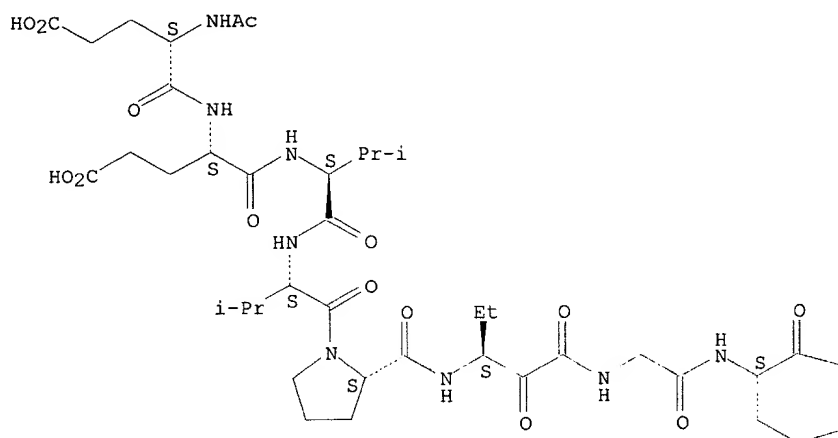
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 valyl-L-prolyl-(3S)-3-amino-2-oxopentanoylglycyl-L-methionyl-L-seryl-L-
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 SQL 11
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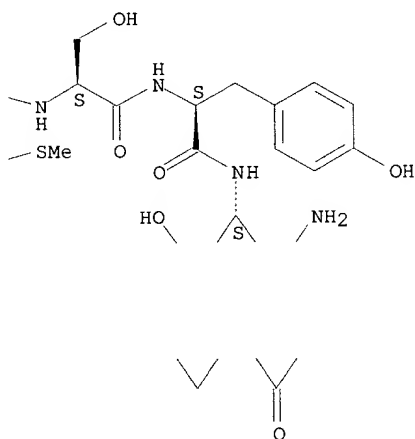
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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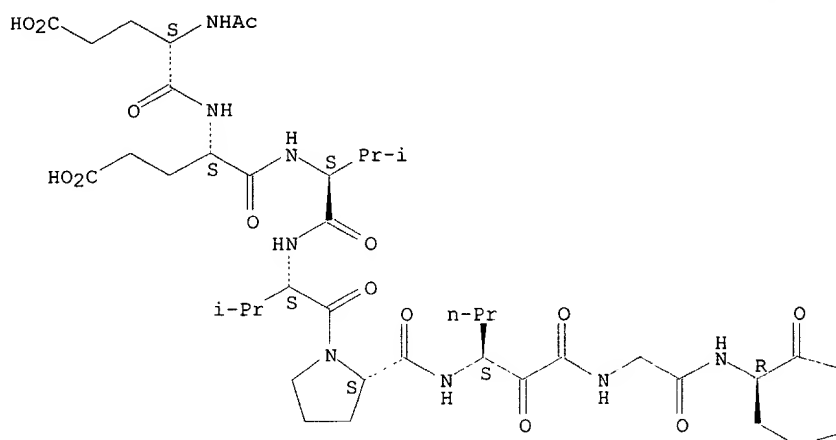
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-methionyl-D-.alpha.-
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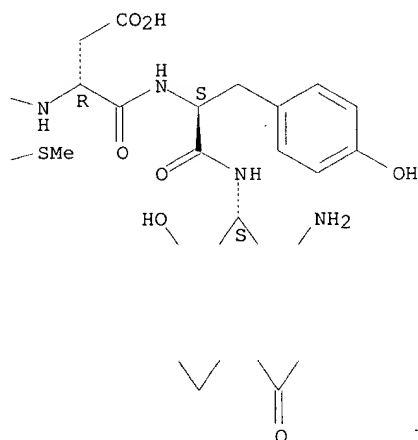
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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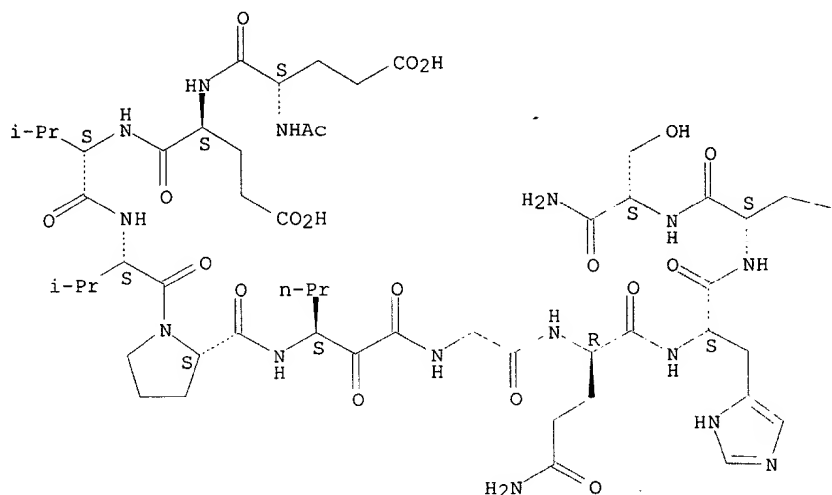
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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 SQL 11
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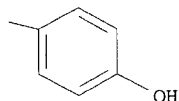
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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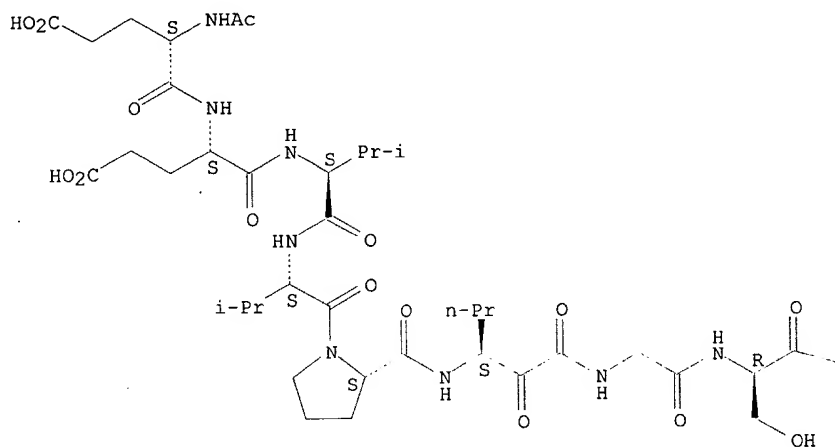
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49. ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 11
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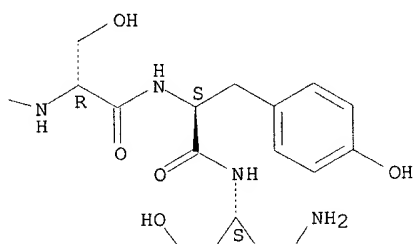
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Absolute stereochemistry.

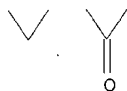
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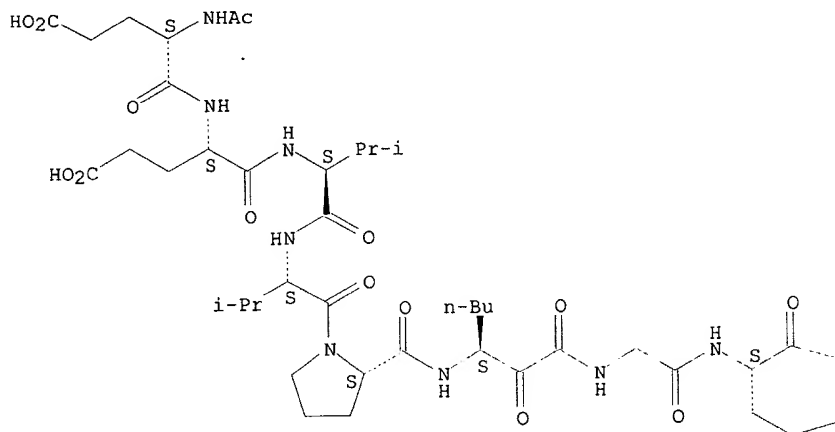
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 valyl-L-prolyl-(3S)-3-amino-2-oxoheptanoylglycyl-L-methionyl-L-seryl-L-
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 SQL 11
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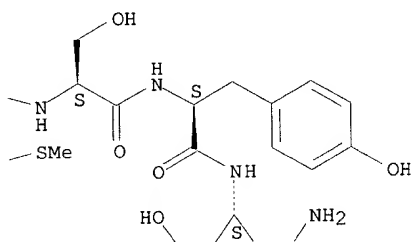
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

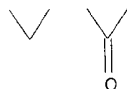
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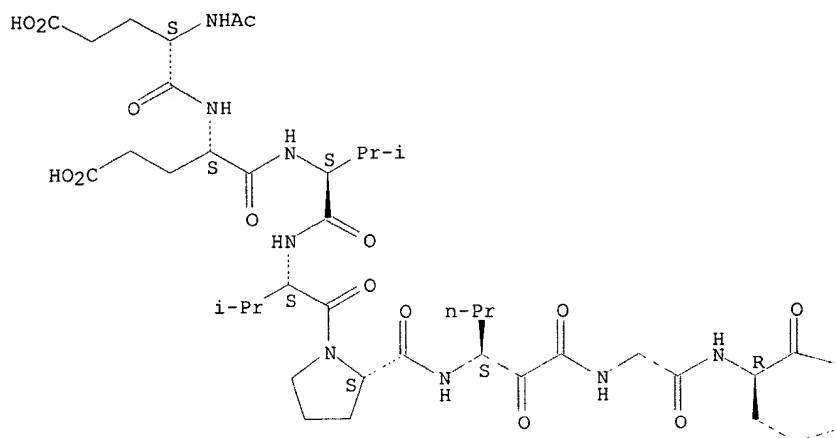
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-methionyl-L-.alpha.-
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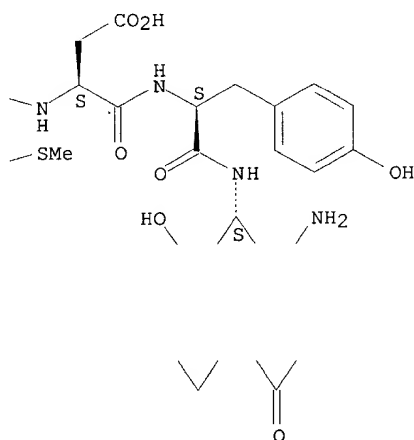
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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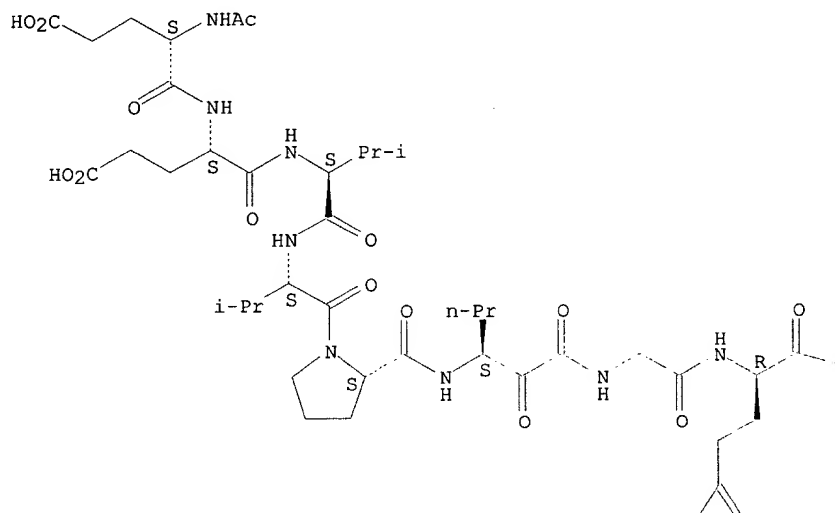
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-glutaminy-L-seryl-L-
 tyrosyl- (9CI)
 SQL 11
 MF C55 H83 N13 O21

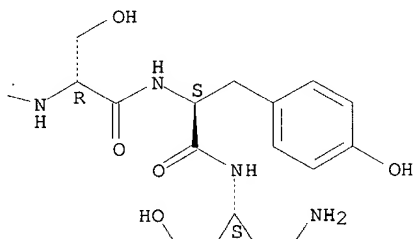
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

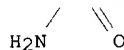
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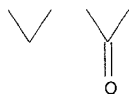
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

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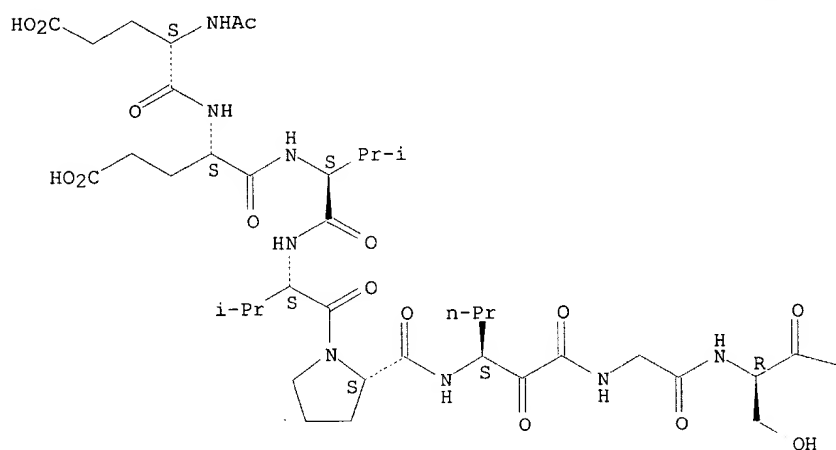
SQL 11

MF C53 H80 N12 O21

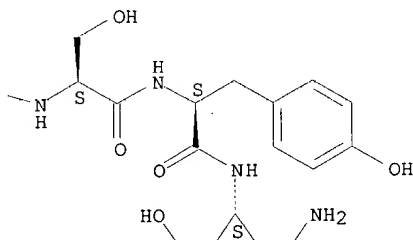
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

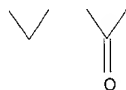
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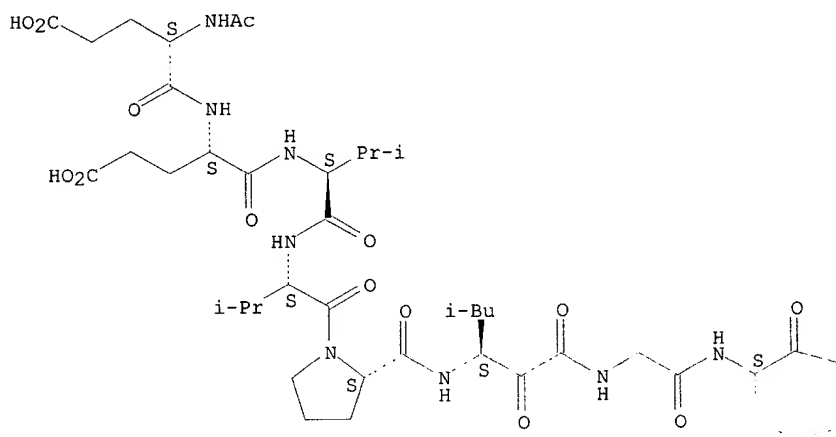
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 11
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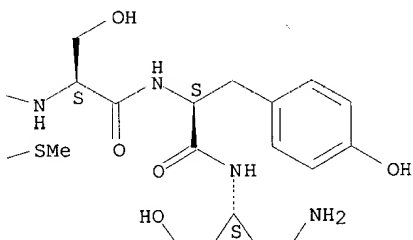
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

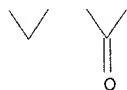
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-methionyl-L-histidyl-L-tyrosyl- (9CI)

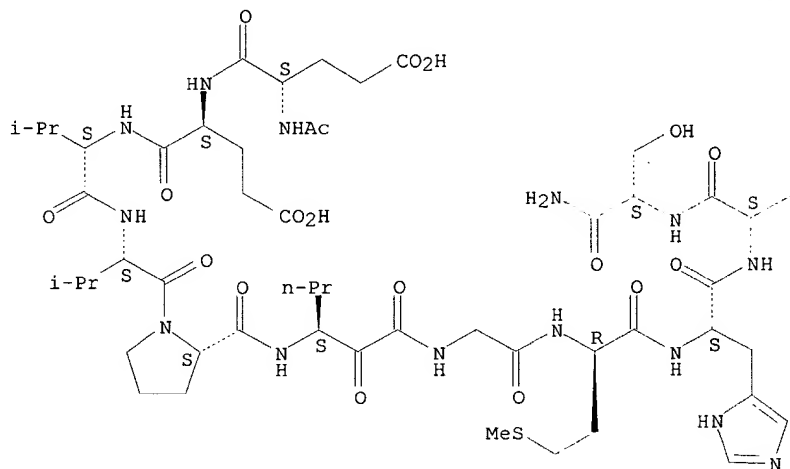
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MF C58 H86 N14 O19 S

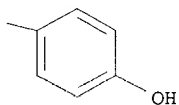
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-D-glutamyl-L-seryl-L-tyrosyl- (9CI)

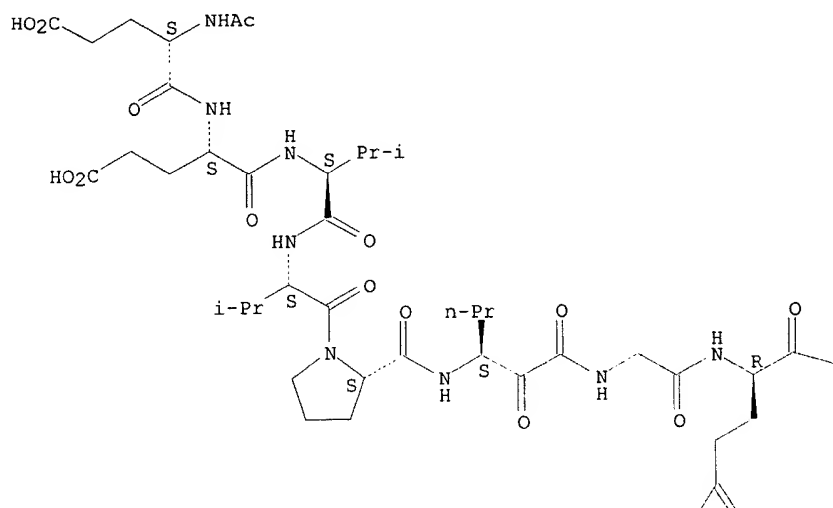
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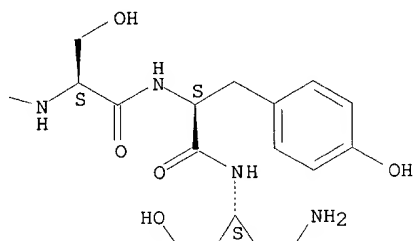
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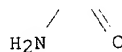
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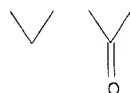
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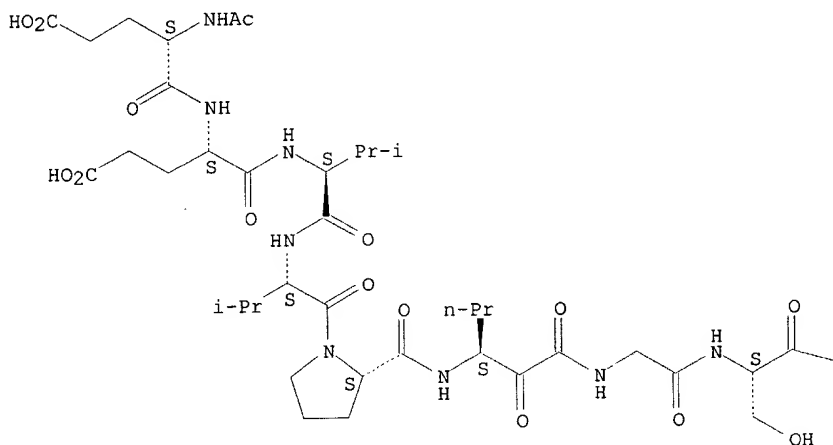
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 11
 MF C54 H80 N12 O22

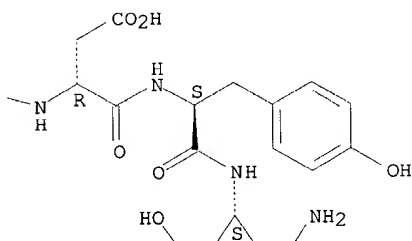
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Absolute stereochemistry.

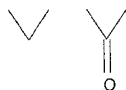
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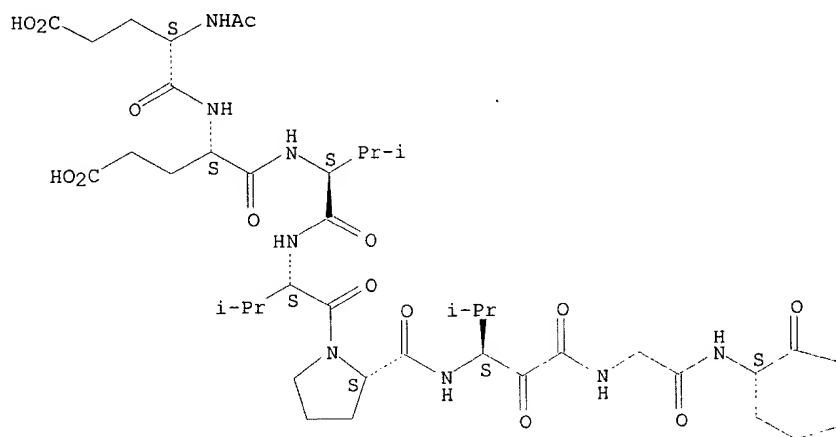
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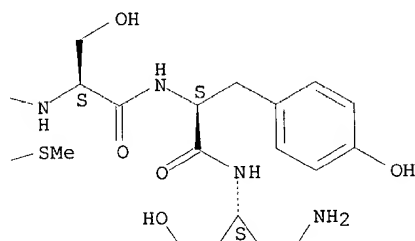
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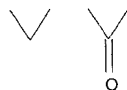
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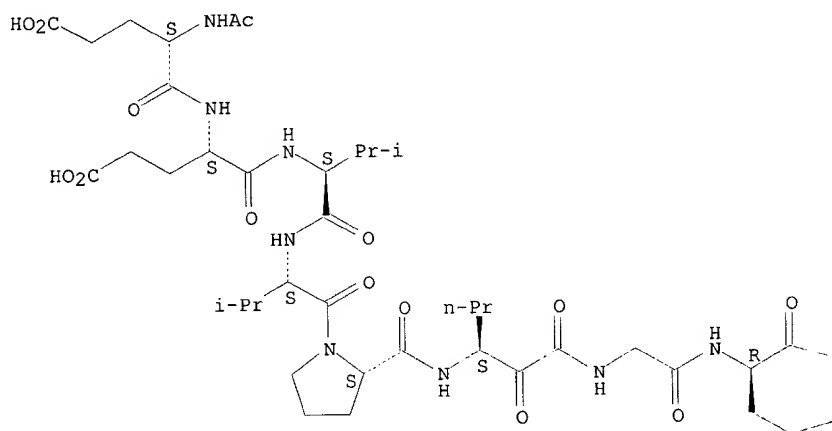
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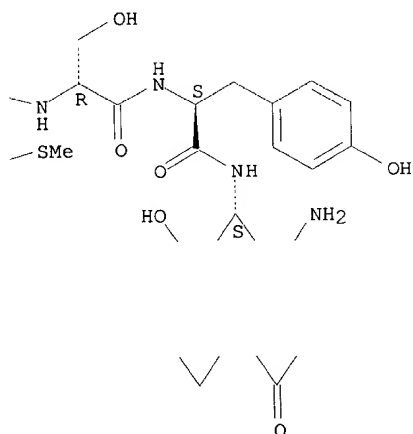
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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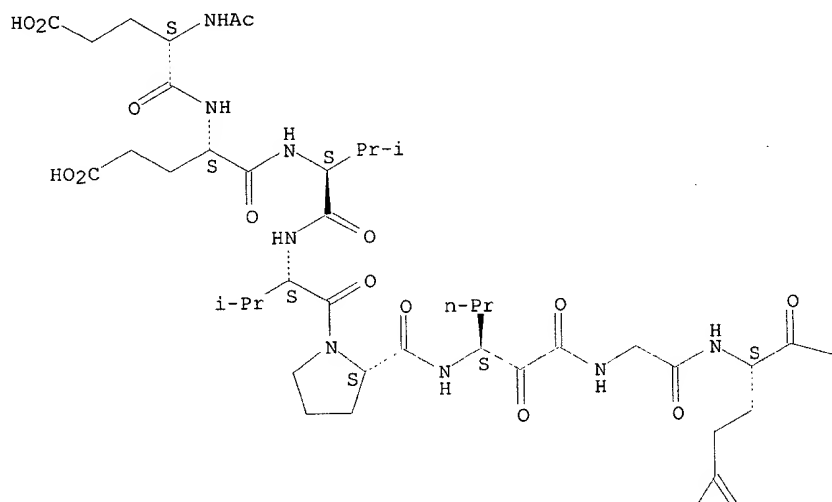
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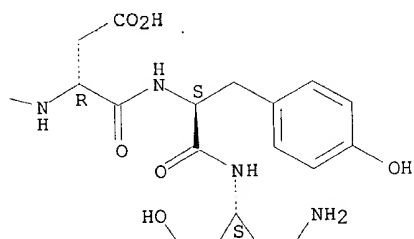
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RELATED SEQUENCES AVAILABLE WITH SEQLINK

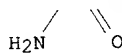
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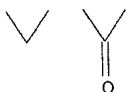


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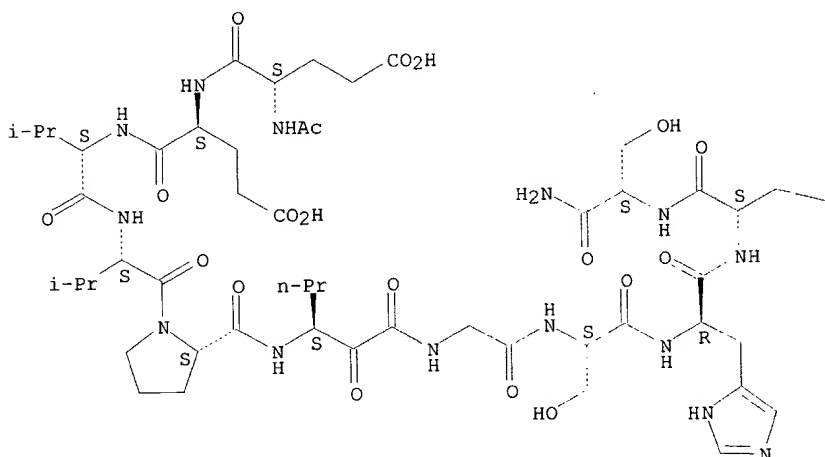
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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 SQL 11
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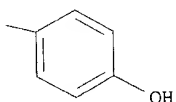
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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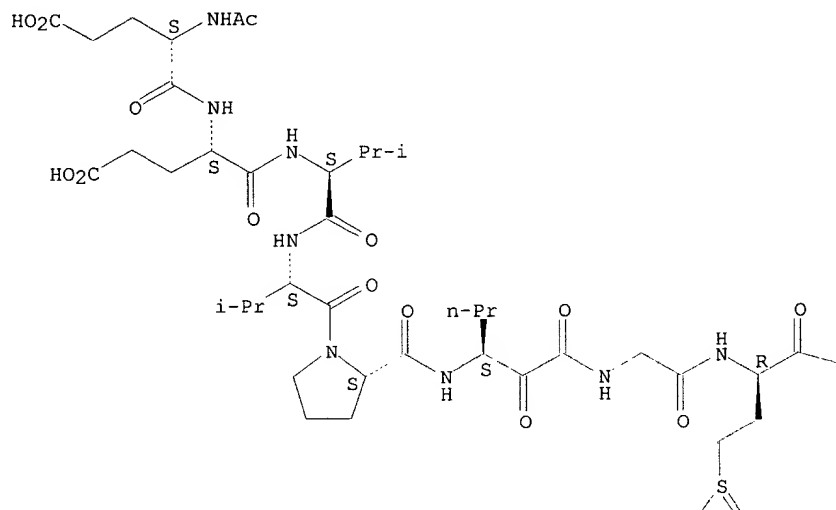
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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SQL 11
MF C56 H84 N12 O22 S

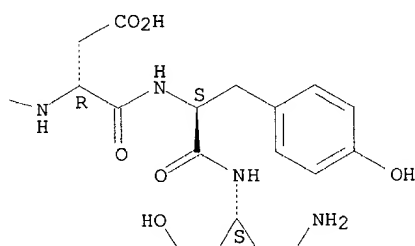
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Absolute stereochemistry.

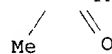
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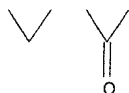
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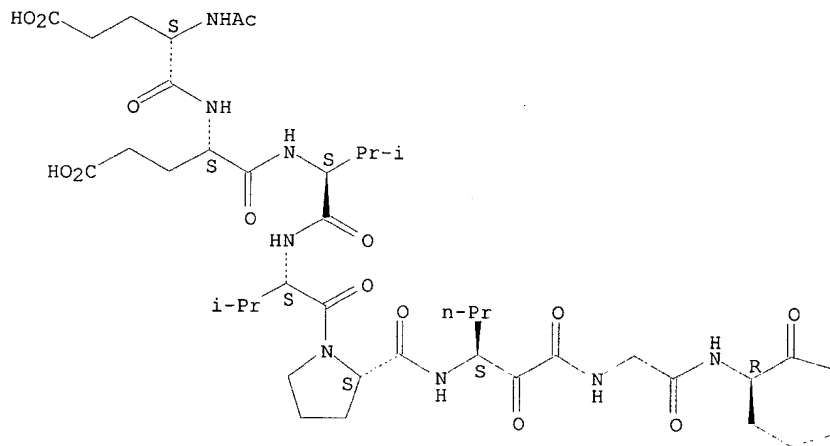
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 SQL 11
 MF C55 H84 N12 O20 S

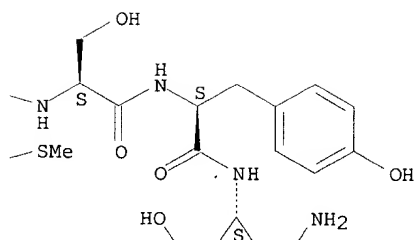
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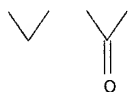
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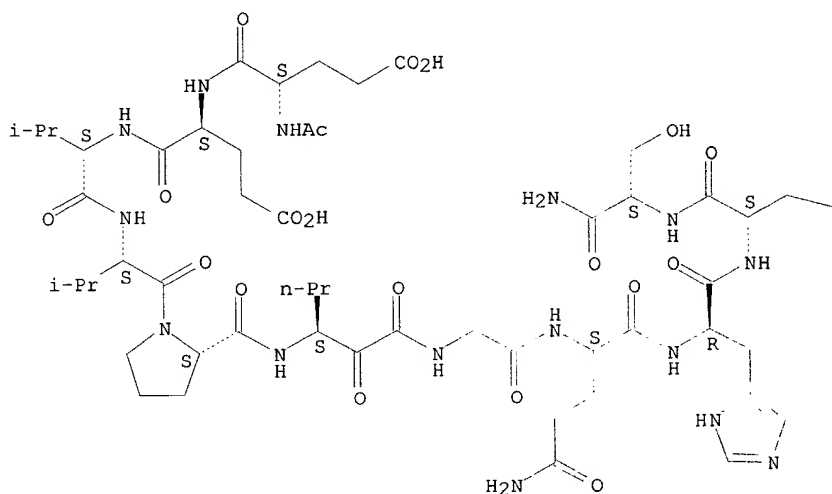
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L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
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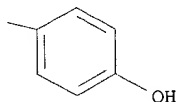
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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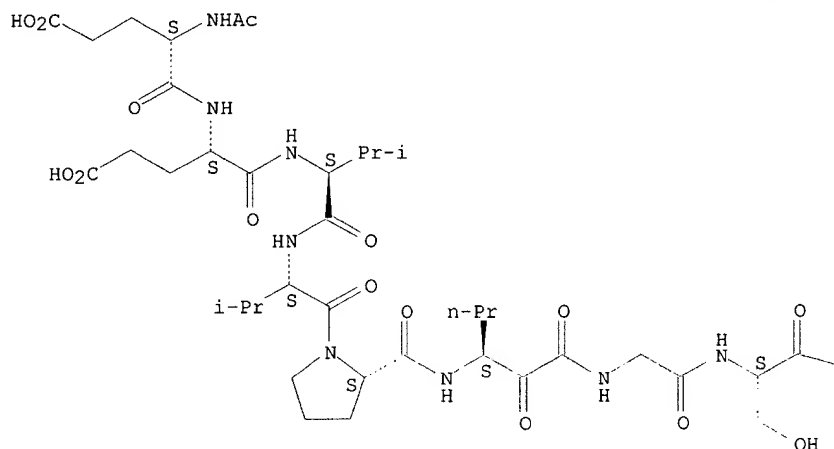
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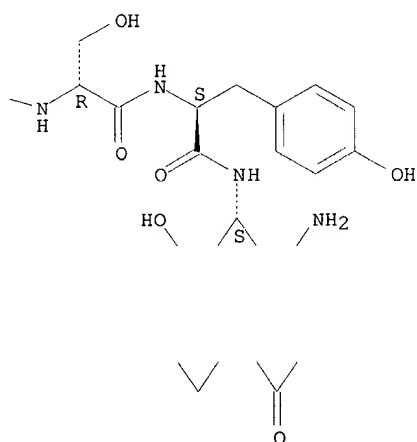
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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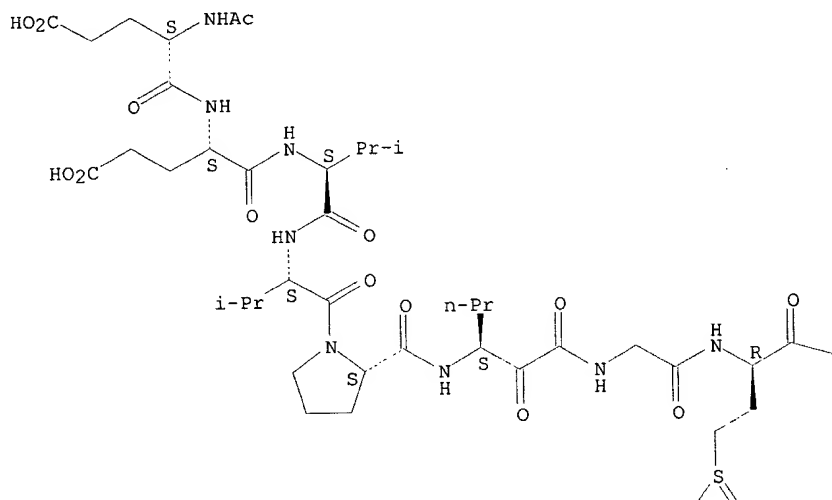
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

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SQL 11
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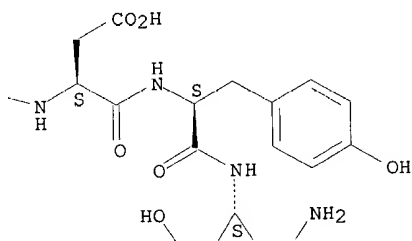
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Absolute stereochemistry.

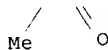
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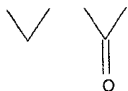
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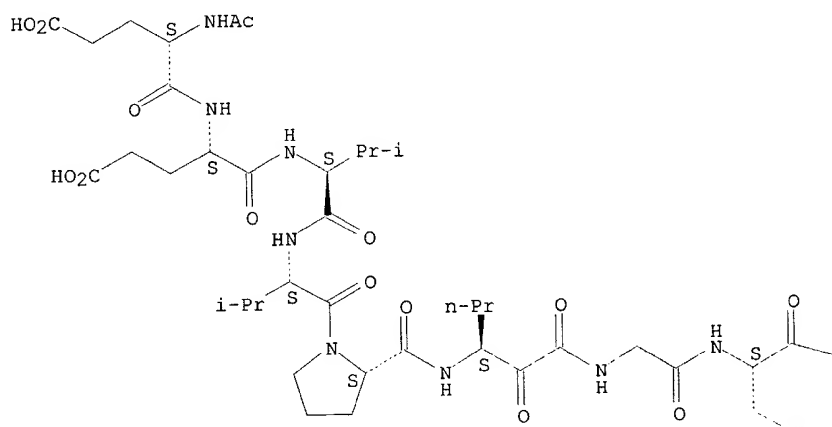
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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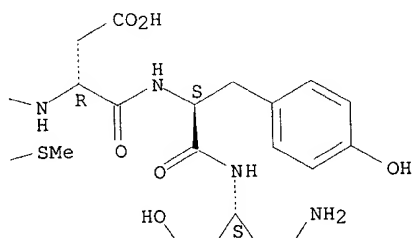
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Absolute stereochemistry.

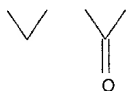
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

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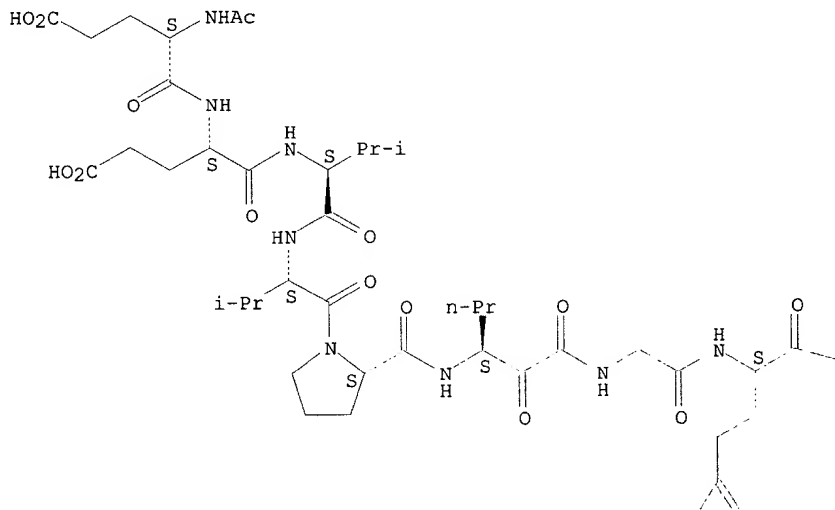
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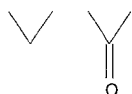
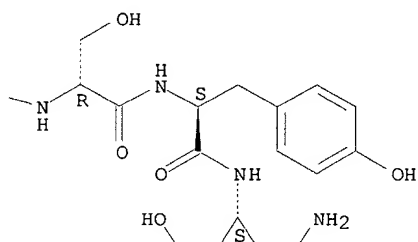
MF C55 H83 N13 O21

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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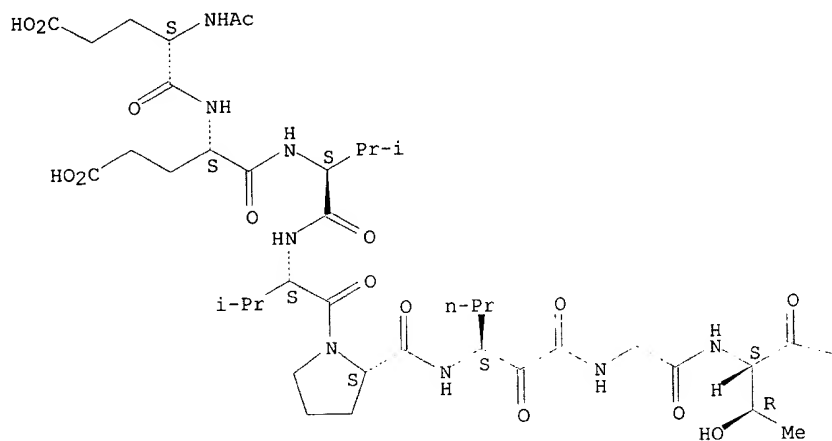
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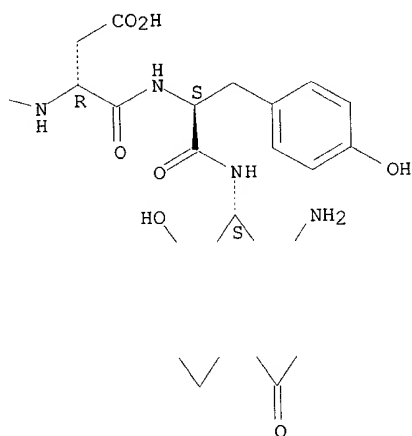
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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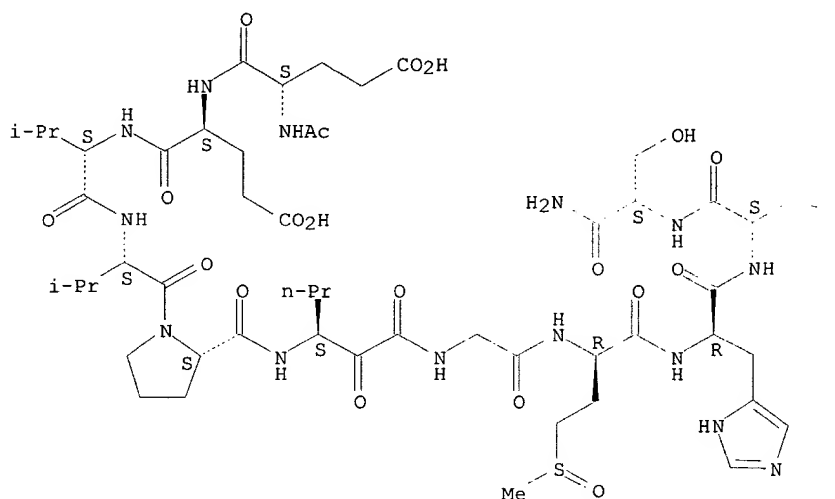
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 SQL 11
 MF C58 H86 N14 O20 S

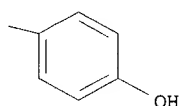
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-L-methionyl-D-histidyl-L-tyrosyl- (9CI)

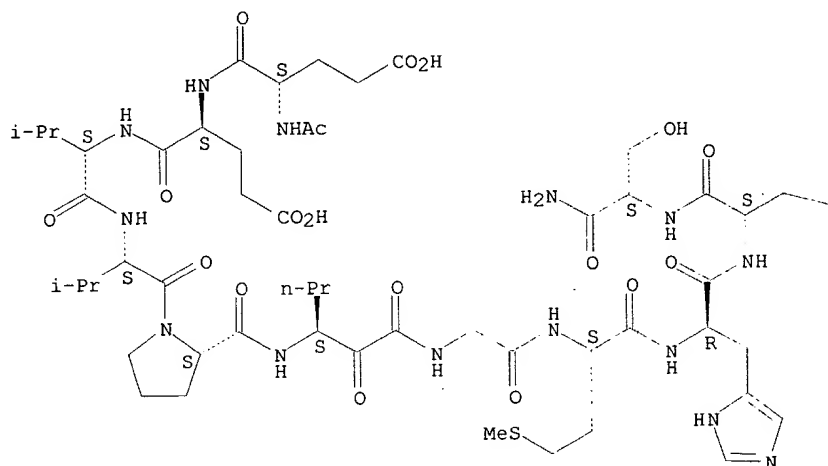
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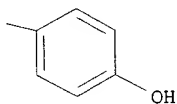
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

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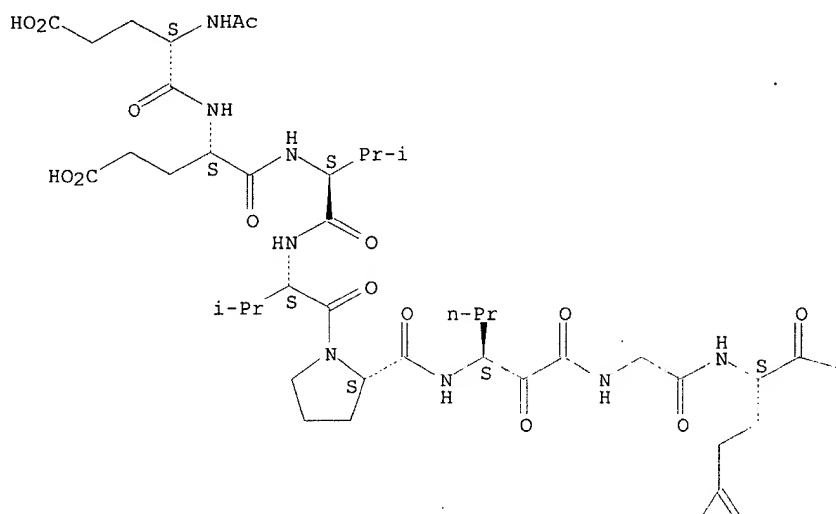
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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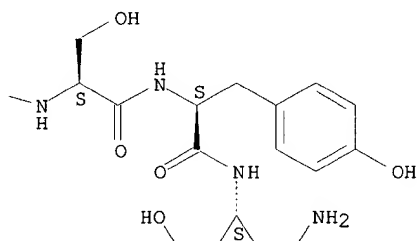
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Absolute stereochemistry.

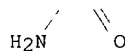
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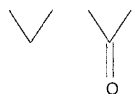
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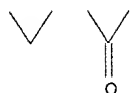
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Page 44

Absolute stereochemistry.

 Me O

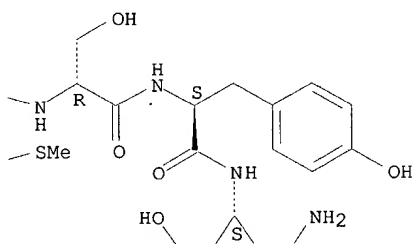
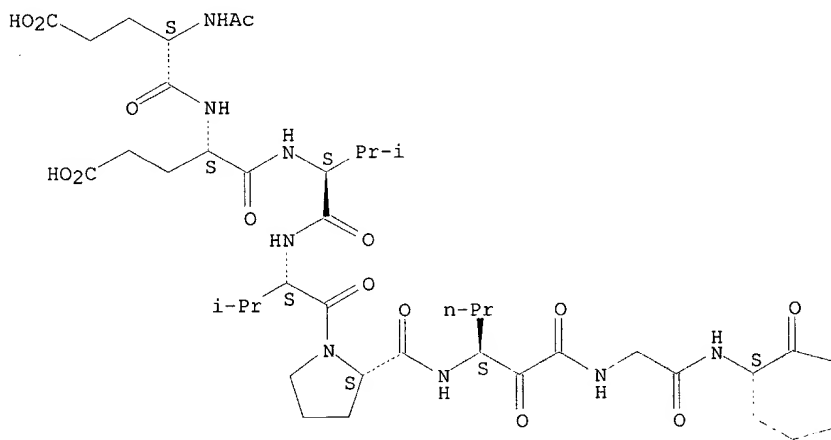


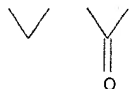
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 SQL 11
 MF C55 H84 N12 O20 S

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



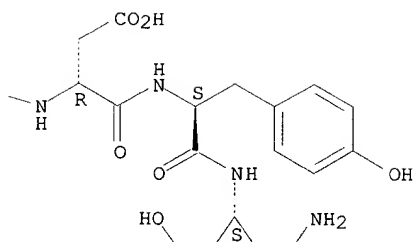
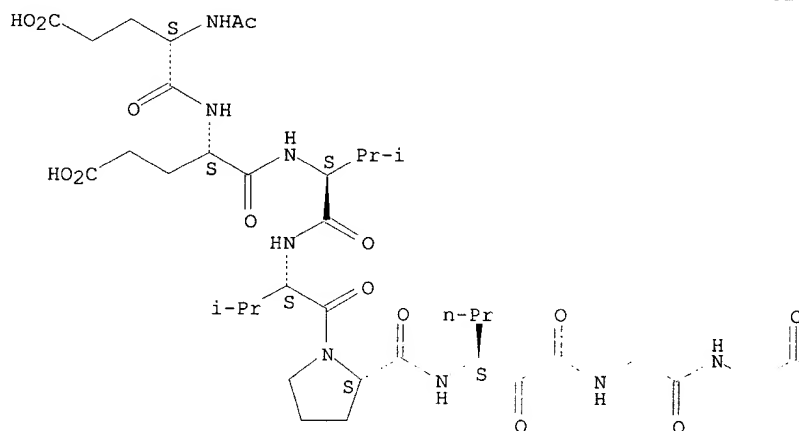


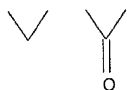
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 tyrosyl- (9CI)
 SQL 11
 MF C53 H78 N12 O21

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



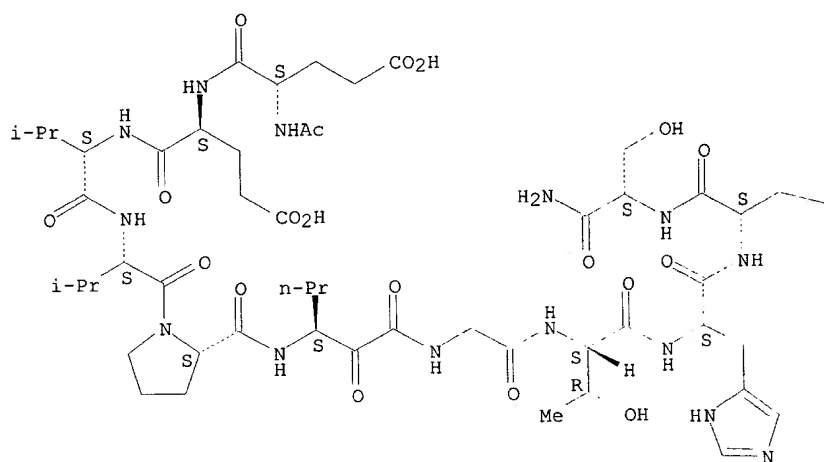


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

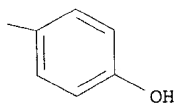
L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-L-threonyl-L-histidyl-L-
 tyrosyl- (9CI)
 SQL 11
 MF C57 H84 N14 O20

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



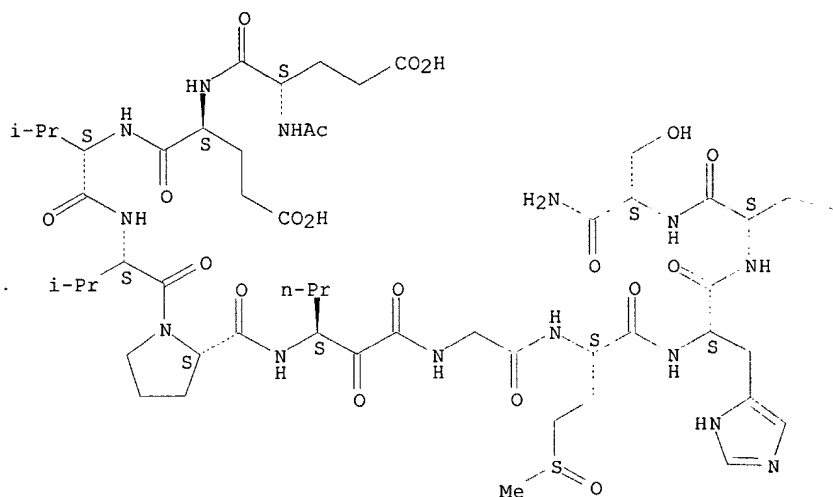
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-(2S)-2-amino-4-
 (methylsulfinyl)butanoyl-L-histidyl-L-tyrosyl- (9CI)
 SQL 11
 MF C58 H86 N14 O20 S

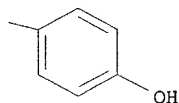
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



1

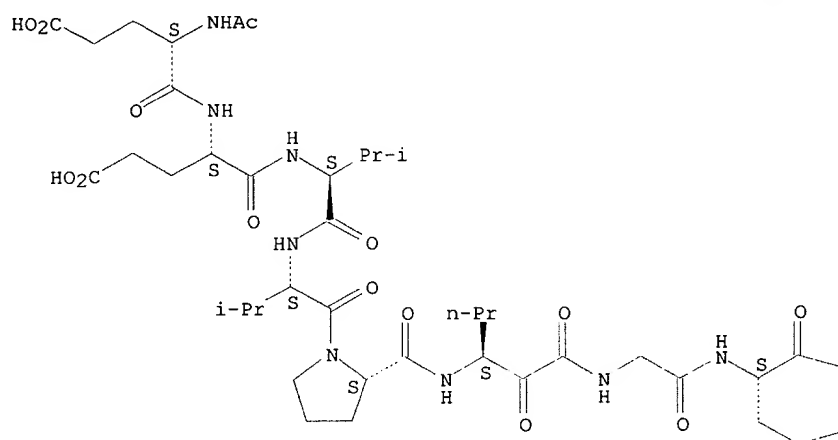
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 49 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Serinamide, N-acetyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-valyl-L-
 valyl-L-prolyl-(3S)-3-amino-2-oxohexanoylglycyl-L-methionyl-L-seryl-L-
 tyrosyl- (9CI)
 SQL 11
 MF C55 H84 N12 O20 S

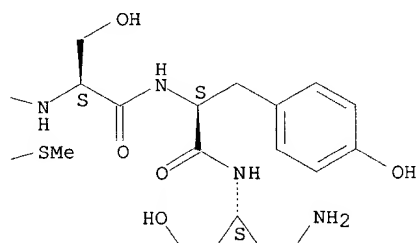
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

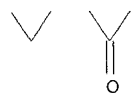
PAGE 1-A



PAGE 1-B



PAGE 2-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

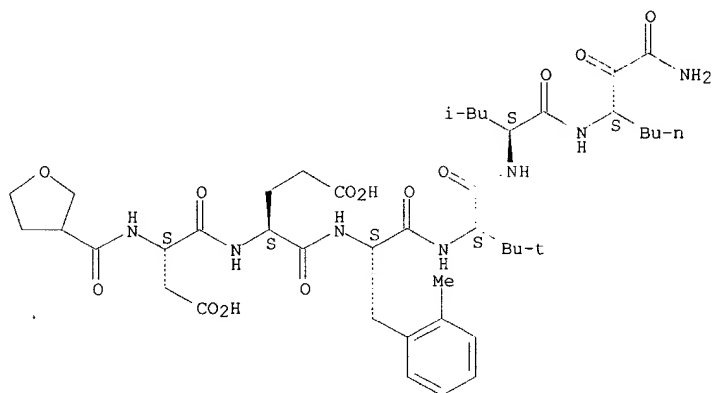
ALL ANSWERS HAVE BEEN SCANNED

=> d scan

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[(tetrahydro-3-furanyl)carbonyl]-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C43 H65 N7 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.



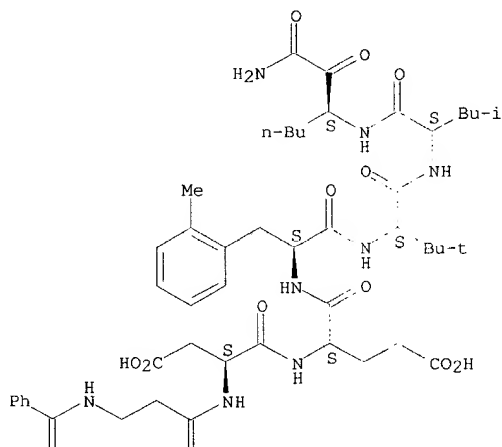
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):195

L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-benzoyl-.beta.-alanyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 7
 MF C48 H68 N8 O13

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

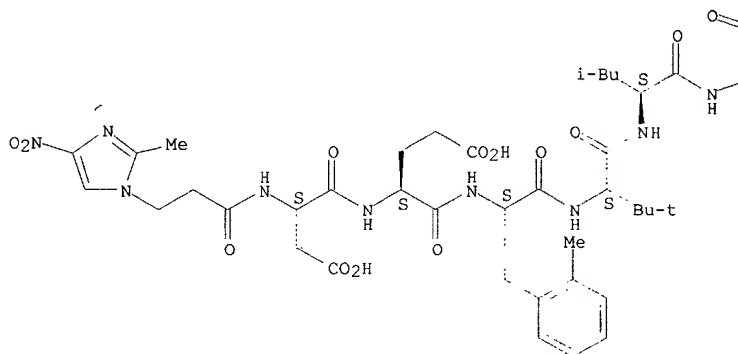


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-[3-(2-methyl-4-nitro-1H-imidazol-1-yl)-1-oxopropyl]-L-
 .alpha.-aspartyl-L-.alpha.-glutamyl-2-methyl-L-phenylalanyl-3-methyl-L-
 valyl-N-[(1S)-1-(aminooxoacetyl)pentyl]- (9CI)
 SQL 5
 MF C45 H66 N10 O14

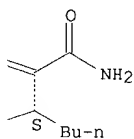
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

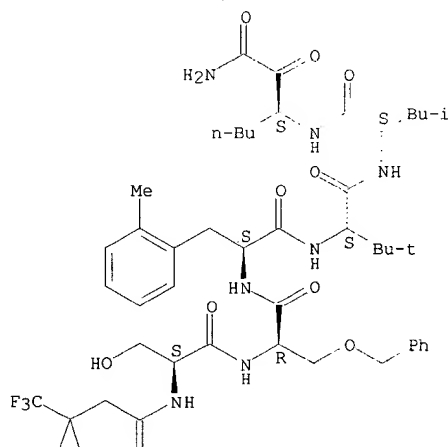


L19 196 ANSWERS REGISTRY COPYRIGHT 2003 ACS
 IN L-Leucinamide, N-(4,4,4-trifluoro-3-hydroxy-3-methyl-1-oxobutyl)-L-seryl-O-
 (phenylmethyl)-D-seryl-2-methyl-L-phenylalanyl-3-methyl-L-valyl-N-[(1S)-1-
 (aminooxoacetyl)pentyl]- (9CI)
 SQL 6
 MF C47 H68 F3 N7 O11

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



09909062_QUAL

1 6251583 90 - ALSO TO SCHERING CORP., diff. inv's, POSS DB PAT.
2 6265380 80 D 571C search int 102(b) Ser. to Brood Cl. 4 in this Ref.
3 5990276 78
4 6268207 77
5 6323180 77
6 6329379 77
7 6329417 77
8 6410531 77
9 6420380 77
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6245789 55
6340690 55
5763159 54
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6383785 54
6524589 54
6461845 54

09909062_QUAL

6333186 54
6326169 53

about 2
 abstract 1
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 account 1
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 affinity 1
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 ains 1
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chymotrypsin 2
cirrhosis 3
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cleavage 2
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co 1
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determined 1
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disorders 2
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distinguished 1
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09909062_CLS
Most Frequently Occurring Classifications of Patents Returned
From A Search of 09909062 on March 13, 2003

Original Classifications

6 435/5
4 435/219
3 514/361
2 424/228.1
2 435/23
2 514/300
2 530/326
2 530/350

Cross-Reference Classifications

7 536/23.72
6 435/320.1
6 435/325
6 435/5
6 435/69.7
5 435/219
5 435/69.1
4 435/23
4 530/324
4 536/23.2
3 435/183
3 435/252.3
3 435/6
3 514/12
3 514/312
3 530/326
3 530/327
3 530/332
3 530/350
3 536/23.1
3 536/23.4
3 546/153
3 548/523
2 424/184.1
2 424/185.1
2 424/225.1
2 435/235.1
2 435/236
2 436/820
2 514/13
2 514/18
2 514/2
2 514/314

09909062_CLS

2 514/339
2 514/370
2 514/425
2 530/323
2 530/328
2 530/826
2 544/283
2 546/171
2 546/276.4
2 548/517
2 548/571
2 702/19

Combined Classifications

12 435/5
9 435/219
7 435/320.1
7 536/23.72
6 435/23
6 435/325
6 435/69.1
6 435/69.7
5 530/326
5 530/350
4 435/6
4 514/361
4 530/324
4 536/23.2
3 435/183
3 435/252.3
3 514/12
3 514/18
3 514/2
3 514/312
3 530/327
3 530/332
3 536/23.1
3 536/23.4
3 546/153
3 548/523
3 702/19
2 424/184.1
2 424/185.1
2 424/225.1
2 424/228.1
2 435/194
2 435/235.1
2 435/236

09909062_CLS

2 435/69.3
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2 514/13
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2 514/425
2 530/323
2 530/328
2 530/826
2 544/283
2 546/171
2 546/276.4
2 548/517
2 548/571

09909062_CLSTITLES

Titles of Most Frequently Occurring Classifications of Patents Returned

From A Search of 09909062 on March 13, 2003

12	435/5	(6 OR, 6 XR)
	Class	435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY
	435/4	MEASURING OR TESTING PROCESS INVOLVING ENZYMES OR MICRO-ORGANISMS; COMPOSITION OR TEST STRIP THEREFORE;
		PROCESSES OF FORMING SUCH COMPOSITION OR TEST STRIP
	435/5	.Involving virus or bacteriophage
9	435/219	(4 OR, 5 XR)
	Class	435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY
	435/183	ENZYME (E.G., LIGASES (6.), ETC.), PROENZYME; COMPOSITIONS THEREOF; PROCESS FOR PREPARING, ACTIVATING, INHIBITING, SEPARATING, OR PURIFYING ENZYMES
	435/195	.Hydrolase (3.)
	435/212	..Acting on peptide bond (e.g., thromboplastin leucine amino-peptidase, etc., (3.4))
	435/219	...Proteinase
7	435/320.1	(1 OR, 6 XR)
	Class	435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY
	435/320.1	VECTOR, PER SE (E.G., PLASMID, HYBRID PLASMID, COSMID, VIRAL VECTOR, BACTERIOPHAGE VECTOR, ETC.) BACTERIOPHAGE VECTOR, ETC.)
7	536/23.72	(0 OR, 7 XR)
	Class	536 : ORGANIC COMPOUNDS -- PART OF THE CLASS 532-570 SERIES
	536/1.11	.Carbohydrates or derivatives
	536/18.7	..Nitrogen containing
	536/22.1	...N-glycosides, polymers thereof, metal derivatives (e.g., nucleic acids, oligonucleotides, etc.)
	536/23.1DNA or RNA fragments or modified forms thereof (e.g., genes, etc.)

09909062_CLSTITLES

536/23.7Encodes a microbial polypeptide
536/23.72Viral protein

6 435/23 (2 OR, 4 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/4 MEASURING OR TESTING PROCESS INVOLVING ENZYMES
OR MICRO-ORGANISMS; COMPOSITION OR TEST S

TRIP THEREFORE;

PROCESSES OF FORMING SUCH COMPOSITION OR

TEST STRIP

435/18 .Involving hydrolase

435/23 ..Involving proteinase

6 435/325 (0 OR, 6 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/325 ANIMAL CELL, PER SE (E.G., CELL LINES, ETC.);
COMPOSITION THEREOF; PROCESS OF PROPAGATING

, MAINTAINING OR

PRESERVING AN ANIMAL CELL OR COMPOSITION TH

EREOF; PROCESS

OF ISOLATING OR SEPARATING AN ANIMAL CELL O

R COMPOSITION

THEREOF; PROCESS OF PREPARING A COMPOSITION

CONTAINING AN

ANIMAL CELL; CULTURE MEDIA THEREFORE

6 435/69.1 (1 OR, 5 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/41 MICRO-ORGANISM, TISSUE CELL CULTURE OR ENZYME
USING PROCESS TO SYNTHESIZE A DESIRED CHEM

ICAL COMPOUND OR

COMPOSITION

435/69.1 .Recombinant DNA technique included in method
of making a protein or polypeptide

6 435/69.7 (0 OR, 6 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/41 MICRO-ORGANISM, TISSUE CELL CULTURE OR ENZYME
USING PROCESS TO SYNTHESIZE A DESIRED CHE

MICAL COMPOUND OR

COMPOSITION

435/69.1 .Recombinant DNA technique included in method
of making a protein or polypeptide

435/69.7 ..Fusion proteins or polypeptides

09909062_CLSTITLES

5 530/326 (2 OR, 3 XR)
 Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
 PEPTIDES OR PROTEINS; LIGNINS OR REACTION
 PRODUCTS
 THEREOF
 530/300 PEPTIDES OF 3 TO 100 AMINO ACID RESIDUES
 530/326 .15 to 23 amino acid residues in defined
 sequence

5 530/350 (2 OR, 3 XR)
 Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
 PEPTIDES OR PROTEINS; LIGNINS OR REACTION
 PRODUCTS
 THEREOF
 530/350 PROTEINS, I.E., MORE THAN 100 AMINO ACID
 RESIDUES

4 435/6 (1 OR, 3 XR)
 Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY
 435/4 MEASURING OR TESTING PROCESS INVOLVING ENZYMES
 OR MICRO-ORGANISMS; COMPOSITION OR TEST ST
 RIP THEREFORE;
 PROCESSES OF FORMING SUCH COMPOSITION OR T
 EST STRIP
 435/6 .Involving nucleic acid

4 514/361 (3 OR, 1 XR)
 Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
 COMPOSITIONS
 514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ
 G
 (DOAI)
 514/183 .Heterocyclic carbon compounds containing a
 hetero ring having chalcogen (i.e., O,S,S
 e or Te) or
 nitrogen as the only ring hetero atoms DO
 AI
 514/359 ..Five-membered hetero ring containing at leas
 t
 one nitrogen ring atom (e.g., 1,2,3-triazo
 les, etc.)
 514/361 ...Plural ring nitrogens and a single chalcoge
 n
 in the hetero ring

4 530/324 (0 OR, 4 XR)

09909062_CLSTITLES

Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
PEPTIDES OR PROTEINS; LIGNINS OR REACTION
PRODUCTS

THEREOF

530/300 PEPTIDES OF 3 TO 100 AMINO ACID RESIDUES
530/324 .25 or more amino acid residues in defined
sequence

4 536/23.2 (0 OR, 4 XR)
Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS
532-570 SERIES

536/1.11 .Carbohydrates or derivatives
536/18.7 ..Nitrogen containing
536/22.1 ...N-glycosides, polymers thereof, metal
derivatives (e.g., nucleic acids, oligonu
cleotides, etc.)

536/23.1DNA or RNA fragments or modified forms
thereof (e.g., genes, etc.)
536/23.2Encodes an enzyme

3 435/183 (0 OR, 3 XR)
Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/183 ENZYME (E.G., LIGASES (6.), ETC.), PROENZYME;
COMPOSITIONS THEREOF; PROCESS FOR PREPARING
, ACTIVATING,
INHIBITING, SEPARATING, OR PURIFYING ENZYME
S

3 435/252.3 (0 OR, 3 XR)
Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/243 MICRO-ORGANISM, PER SE (E.G., PROTOZOA, ETC.);
COMPOSITIONS THEREOF; PROCES OF PROPAGATI
NG, MAINTAINING OR
PRESERVING MICRO-ORGANISMS OR COMPOSITION
S THEREOF; PROCESS
OF PREPARING OR ISOLATING A COMPOSITION C
ONTAINING A
MICRO-ORGANISM; CULTURE MEDIA THEREFOR

435/252.1 .Bacteria or actinomycetales; media therefor
435/252.3 ..Transformants (e.g., recombinant DNA or
vector or foreign or exogenous gene contain
ing, fused
bacteria, etc.)

3 514/12 (0 OR, 3 XR)

09909062_CLSTITLES

Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS

514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ

G (DOAI)

514/2 .Peptide containing (e.g., protein, peptones,
fibrinogen, etc.) DOAI

514/12 ..25 or more peptide repeating units in known
peptide chain structure

3 514/18 (1 OR, 2 XR)

Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS

514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ

G (DOAI)

514/2 .Peptide containing (e.g., protein, peptones,
fibrinogen, etc.) DOAI

514/18 ..3 or 4 peptide repeating units in known
peptide chain

3 514/2 (1 OR, 2 XR)

Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS

514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ

G (DOAI)

514/2 .Peptide containing (e.g., protein, peptones,
fibrinogen, etc.) DOAI

3 514/312 (0 OR, 3 XR)

Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS

514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ

G (DOAI)

514/183 .Heterocyclic carbon compounds containing a
hetero ring having chalcogen (i.e., O,
S, Se or Te) or
nitrogen as the only ring hetero atoms

DOAI

514/277 ..Hetero ring is six-membered consisting of on
nitrogen and five carbon atoms

e 514/279 ...Polycyclo ring system having the
six-membered hetero ring as one of the c

yclos 514/299Bicyclo ring system having the six-membere

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d

hetero ring as one of the cyclos
 514/311Quinolines (including hydrogenated)
 514/312Chalcogen attached directly to the
 six-membered hetero ring by nonionic bondin

g

3 530/327 (0 OR, 3 XR)
 Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
 PEPTIDES OR PROTEINS; LIGNINS OR REACTION

PRODUCTS

THEREOF
 530/300 PEPTIDES OF 3 TO 100 AMINO ACID RESIDUES
 530/327 .11 to 14 amino acid residues in defined
 sequence

3 530/332 (0 OR, 3 XR)
 Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
 PEPTIDES OR PROTEINS; LIGNINS OR REACTION

PRODUCTS

THEREOF
 530/300 PEPTIDES OF 3 TO 100 AMINO ACID RESIDUES
 530/332 .Containing at least one abnormal peptide link

e.g., gamma peptide bonded, etc.

3 536/23.1 (0 OR, 3 XR)
 Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS
 532-570 SERIES
 536/1.11 .Carbohydrates or derivatives
 536/18.7 ..Nitrogen containing
 536/22.1 ...N-glycosides, polymers thereof, metal
 derivatives (e.g., nucleic acids, oligonuc
 leotides, etc.)

536/23.1DNA or RNA fragments or modified forms
 thereof (e.g., genes, etc.)

3 536/23.4 (0 OR, 3 XR)
 Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS
 532-570 SERIES
 536/1.11 .Carbohydrates or derivatives
 536/18.7 ..Nitrogen containing
 536/22.1 ...N-glycosides, polymers thereof, metal
 derivatives (e.g., nucleic acids, oligonu
 cleotides, etc.)

536/23.1DNA or RNA fragments or modified forms

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thereof (e.g., genes, etc.)

536/23.4Encodes a fusion protein

3 546/153 (0 OR, 3 XR)

Class 546 : ORGANIC COMPOUNDS -- PART OF THE CLASS
532-570 SERIES

546/1 ..Hetero ring is six-membered consisting of on

e

nitrogen and five carbons

546/26 ...Polycyclo ring system having the
six-membered hetero ring as one of the c

yclos

546/112Bicyclo ring system having the six-membere

d

hetero ring as one of the cyclos

546/152Quinolines (including hydrogenated)

546/153Chalcogen attached directly to the
six-membered hetero ring by nonionic bondin

g

3 548/523 (0 OR, 3 XR)

Class 548 : ORGANIC COMPOUNDS -- PART OF THE CLASS
532-570 SERIES548/400 ..Hetero ring is five-membered consisting of
one nitrogen and four carbons (e.g., hal

opyrrolidines,

etc.)

548/517 ...Additional hetero ring, which is attached
directly or indirectly to the five-member

ed hetero ring by

nonionic bonding

548/518The additional hetero ring also contains
nitrogen548/523Ring nitrogens of the two nitrogen
containing hetero rings are bonded directly

to the same

atom or chain, which chain may include a ri

ng

3 702/19 (1 OR, 2 XR)

Class 702 : DATA PROCESSING: MEASURING, CALIBRATING, OR
TESTING

702/1 MEASUREMENT SYSTEM IN A SPECIFIC ENVIRONMENT

702/19 .Biological or biochemical

2 424/184.1 (0 OR, 2 XR)

Class 424 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS

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424/184.1 ANTIGEN, EPITOPE, OR OTHER IMMUNOSPECIFIC
IMMUNOEFFECTOR (E.G., IMMUNOSPECIFIC VACCIN
E,
IMMUNOSPECIFIC STIMULATOR OF CELL-MEDIATED
IMMUNITY,
IMMUNOSPECIFIC TOLEROGEN, IMMUNOSPECIFIC IM
MUNOSUPPRESSOR,
ETC.)

2 424/185.1 (0 OR, 2 XR)
Class 424 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS
424/184.1 ANTIGEN, EPITOPE, OR OTHER IMMUNOSPECIFIC
IMMUNOEFFECTOR (E.G., IMMUNOSPECIFIC VACCI
NE,
IMMUNOSPECIFIC STIMULATOR OF CELL-MEDIATED
IMMUNITY,
IMMUNOSPECIFIC TOLEROGEN, IMMUNOSPECIFIC I
MMUNOSUPPRESSOR,
ETC.)
424/185.1 .Amino acid sequence disclosed in whole or in
part; or conjugate, complex, or fusion prot
ein or fusion
polypeptide including the same

2 424/225.1 (0 OR, 2 XR)
Class 424 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS
424/184.1 ANTIGEN, EPITOPE, OR OTHER IMMUNOSPECIFIC
IMMUNOEFFECTOR (E.G., IMMUNOSPECIFIC VACC
INE,
IMMUNOSPECIFIC STIMULATOR OF CELL-MEDIATE
D IMMUNITY,
IMMUNOSPECIFIC TOLEROGEN, IMMUNOSPECIFIC
IMMUNOSUPPRESSOR,
ETC.)
424/204.1 .Virus or component thereof
424/225.1 ..Hepatitis virus (e.g., infectious canine
hepatitis virus, duck hepatitis virus, mous
e hepatitis
virus, etc.)

2 424/228.1 (2 OR, 0 XR)
Class 424 : DRUG, BIO-AFFECTING AND BODY TREATING
COMPOSITIONS
424/184.1 ANTIGEN, EPITOPE, OR OTHER IMMUNOSPECIFIC
IMMUNOEFFECTOR (E.G., IMMUNOSPECIFIC VAC
CINE,

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ED IMMUNITY,
IMMUNOSUPPRESSOR,
IMMUNOSPECIFIC STIMULATOR OF CELL-MEDIATED IMMUNITY,
IMMUNOSPECIFIC TOLERAGEN, IMMUNOSPECIFIC

ETC.)

424/204.1 .Virus or component thereof
424/225.1 ..Hepatitis virus (e.g., infectious canine
se hepatitis hepatitis virus, duck hepatitis virus, mouse
hepatitis virus, etc.)
424/228.1 ...Non-A, non-B hepatitis virus or hepatitis C
virus

2 435/194 (1 OR, 1 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/183 ENZYME (E.G., LIGASES (6.), ETC.), PROENZYME;
COMPOSITIONS THEREOF; PROCESS FOR PREPARING,
ACTIVATING, INHIBITING, SEPARATING, OR PURIFYING ENZYMES

435/193 .Transferase other than ribonuclease (2.)

435/194 ..Transferring phosphorus containing group
(e.g., kinases, etc.(2.7))

2 435/235.1 (0 OR, 2 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/235.1 VIRUS OR BACTERIOPHAGE, EXCEPT FOR VIRAL VECTOR
OR BACTERIOPHAGE VECTOR; COMPOSITION THEREOF;
PREPARATION OR PURIFICATION THEREOF; PRODUCTION OF VIRAL
SUBUNITS;
MEDIA FOR PROPAGATING

2 435/236 (0 OR, 2 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/235.1 VIRUS OR BACTERIOPHAGE, EXCEPT FOR VIRAL VECTOR
OR BACTERIOPHAGE VECTOR; COMPOSITION THEREOF;
PREPARATION OR PURIFICATION THEREOF; PRODUCTION OF VIRAL
SUBUNITS;
MEDIA FOR PROPAGATING
435/236 .Inactivation or attenuation; producing viral
subunits

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2 435/69.3 (1 OR, 1 XR)
 Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY
 435/41 MICRO-ORGANISM, TISSUE CELL CULTURE OR ENZYME
 USING PROCESS TO SYNTHESIZE A DESIRED CHE
 MICAL COMPOUND OR
 COMPOSITION
 435/69.1 .Recombinant DNA technique included in method
 of making a protein or polypeptide
 435/69.3 ..Antigens

2 436/820 (0 OR, 2 XR)
 Class 436 : CHEMISTRY: ANALYTICAL AND IMMUNOLOGICAL
 TESTING
 436/820 HEPATITIS ASSOCIATED ANTIGENS AND ANTIBODIES

2 514/13 (0 OR, 2 XR)
 Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
 COMPOSITIONS
 514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ
 G
 (DOAI)
 514/2 .Peptide containing (e.g., protein, peptones,
 fibrinogen, etc.) DOAI
 514/13 ..16 to 24 peptide repeating units in known
 peptide chain

2 514/300 (2 OR, 0 XR)
 Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
 COMPOSITIONS
 514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ
 G
 (DOAI)
 514/183 .Heterocyclic carbon compounds containing a
 hetero ring having chalcogen (i.e., O,S
 ,Se or Te) or
 nitrogen as the only ring hetero atoms
 DOAI
 514/277 ..Hetero ring is six-membered consisting of on
 e
 nitrogen and five carbon atoms
 514/279 ...Polycyclo ring system having the
 six-membered hetero ring as one of the cy
 clos
 514/299Bicyclo ring system having the six-membere
 d
 hetero ring as one of the cyclos

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514/300Plural hetero atoms in the bicyclo ring system

2 514/314 (0 OR, 2 XR)

Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING COMPOSITIONS

514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ

G

(DOAI)

514/183 .Heterocyclic carbon compounds containing a hetero ring having chalcogen (i.e., O,

S, Se or Te) or

nitrogen as the only ring hetero atoms

DOAI

514/277 ..Hetero ring is six-membered consisting of on

e

nitrogen and five carbon atoms

514/279 ...Polycyclo ring system having the six-membered hetero ring as one of the c

yclos

514/299Bicyclo ring system having the six-membere

d

hetero ring as one of the cyclos

514/311Quinolines (including hydrogenated)

514/314Additional hetero ring attached directly or indirectly to the quinoline ring system

by nonionic

bonding

2 514/339 (0 OR, 2 XR)

Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING COMPOSITIONS

514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ

G

(DOAI)

514/183 .Heterocyclic carbon compounds containing a hetero ring having chalcogen (i.e., O, S

, Se or Te) or

nitrogen as the only ring hetero atoms

DOAI

514/277 ..Hetero ring is six-membered consisting of on

e

nitrogen and five carbon atoms

514/336 ...Additional hetero ring containing

514/337The additional hetero ring is one of the cyclos in a polycyclo ring system

514/339Ring nitrogen in the polycyclo ring syste

m

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2 514/365 (1 OR, 1 XR)
 Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
 COMPOSITIONS
 514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ
 G
 (DOAI)
 514/183 .Heterocyclic carbon compounds containing a
 hetero ring having chalcogen (i.e., O,S,S
 e or Te) or
 nitrogen as the only ring hetero atoms DO
 AI
 514/359 ..Five-membered hetero ring containing at leas
 t
 one nitrogen ring atom (e.g., 1,2,3-triazo
 les, etc.)
 514/365 ...1,3-thiazoles (including hydrogenated)

2 514/370 (0 OR, 2 XR)
 Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
 COMPOSITIONS
 514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ
 G
 (DOAI)
 514/183 .Heterocyclic carbon compounds containing a
 hetero ring having chalcogen (i.e., O,S,
 Se or Te) or
 nitrogen as the only ring hetero atoms D
 OAI
 514/359 ..Five-membered hetero ring containing at leas
 t
 one nitrogen ring atom (e.g., 1,2,3-triaz
 oles, etc.)
 514/365 ...1,3-thiazoles (including hydrogenated)
 514/370Nitrogen bonded directly to ring carbon of
 the thiazole ring

2 514/425 (0 OR, 2 XR)
 Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING
 COMPOSITIONS
 514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ
 G
 (DOAI)
 514/183 .Heterocyclic carbon compounds containing a
 hetero ring having chalcogen (i.e., O,S
 ,Se or Te) or
 nitrogen as the only ring hetero atoms

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DOAI

514/359 ..Five-membered hetero ring containing at least one nitrogen ring atom (e.g., 1,2,3-triazoles, etc.)

514/408 ...The five-membered hetero ring consists of one nitrogen and four carbons

514/424Chalcogen bonded directly to the five-membered hetero ring by nonionic bonding

514/425Plural chalcogens bonded directly to the five-membered hetero ring by nonionic bonding

2 530/323 (0 OR, 2 XR)

Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
PEPTIDES OR PROTEINS; LIGNINS OR REACTION

PRODUCTS

THEREOF

530/300 PEPTIDES OF 3 TO 100 AMINO ACID RESIDUES

530/323 .Peptides with at least one nonpeptide bond other than a disulfide bond joining two or

more sequences

erodectic

eptides, etc.

of amino acid residues, e.g., homomeric hetero-

peptide other than cyclic disulfide, depsipeptides, etc.

2 530/328 (0 OR, 2 XR)

Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
PEPTIDES OR PROTEINS; LIGNINS OR REACTION

PRODUCTS

THEREOF

530/300 PEPTIDES OF 3 TO 100 AMINO ACID RESIDUES

530/328 .8 to 10 amino acid residues in defined sequence

2 530/826 (0 OR, 2 XR)

Class 530 : CHEMISTRY: NATURAL RESINS OR DERIVATIVES;
PEPTIDES OR PROTEINS; LIGNINS OR REACTION

PRODUCTS

THEREOF

530/820 PROTEINS FROM MICRO-ORGANISMS

530/826 .Viruses

2 544/283 (0 OR, 2 XR)

Class 544 : ORGANIC COMPOUNDS -- PART OF THE CLASS
532-570 SERIES

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544/1 ..Hetero ring is six-membered having two or
 more ring hetero atoms of which at least one is nitrogen
 (e.g., selenazines, etc.)
 544/224 ...The six-membered hetero ring consists of two
 nitrogens and four carbons (e.g., 1,2-diazines, etc.)
 544/2421,3-diazines
 544/245Polycyclo ring system having the diazine
 ring as one of the cyclos
 544/253Bicyclo ring system having the diazine
 ring as one of the cyclos
 544/283The other cyclo in the bicyclo ring
 system is a benzene ring (e.g., quinazoline
 , etc.)

2 546/171 (0 OR, 2 XR)

Class 546 : ORGANIC COMPOUNDS -- PART OF THE CLASS
 532-570 SERIES

546/1 ..Hetero ring is six-membered consisting of one
 nitrogen and five carbons
 546/26 ...Polycyclo ring system having the
 six-membered hetero ring as one of the cyclos
 546/112Bicyclo ring system having the six-membered
 hetero ring as one of the cyclos
 546/152Quinolines (including hydrogenated)
 546/171Nitrogen, other than as nitro or nitroso
 attached directly to the carbocyclic ring of
 the quinoline
 ring system by nonionic bonding

2 546/276.4 (0 OR, 2 XR)

Class 546 : ORGANIC COMPOUNDS -- PART OF THE CLASS
 532-570 SERIES

546/1 ..Hetero ring is six-membered consisting of one
 nitrogen and five carbons
 546/268.1 ...Additional hetero ring containing
 546/276.4The additional hetero ring is five-membered
 consisting of one nitrogen and four carbons

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2 548/517 (0 OR, 2 XR)
 Class 548 : ORGANIC COMPOUNDS -- PART OF THE CLASS
 532-570 SERIES
 548/400 ..Hetero ring is five-membered consisting of
 one nitrogen and four carbons (e.g., halop
 yrrolidines,
 etc.)
 548/517 ...Additional hetero ring, which is attached
 directly or indirectly to the five-membered
 hetero ring by
 nonionic bonding

2 548/571 (0 OR, 2 XR)
 Class 548 : ORGANIC COMPOUNDS -- PART OF THE CLASS
 532-570 SERIES
 548/400 ..Hetero ring is five-membered consisting of
 one nitrogen and four carbons (e.g., halo
 pyrrolidines,
 etc.)
 548/570 ...Chalcogen attached indirectly to the
 five-membered hetero ring by acyclic nonio
 nic bonding
 548/571The chalcogen, X, is in a -C(=X)- group
 (e.g., 1-phenyl -2-pyrrolidino hexanone-1,
 etc.)